

we might invent, and to subject to the corrosive effects of this reconstituted dialogue the outmoded stereotypes upon which the history of art sometimes relies.

In 1913 Munich and the Berlin of *Der Sturm* were not ready to welcome the newness of brilliantly colored but subjectless painting, and they hurled abuse at "the Russian" who wanted to inflict it on them. Similarly, in the 1930s, Paris did not understand how this "former brute" could give himself over to decadent "softness," and the critics smiled mockingly at his "effeminate" works—seeming to consider Kandinsky a new Hercules obliged by Omphale to sit at her feet and spin, or a new Samson weakened by Delilah.

Kandinsky immediately understood the distance between his adoptive city and his new manner of painting. In an article he wrote in memory of his friend Franz Marc, for *Cahiers d'Art*, we find these disillusioned lines: "The times were difficult but heroic. We went ahead with our painting. The public spat on it. Today we go ahead with our painting and the public says, 'That's pretty.' This is a change but it does not mean that the times have become any easier for artists."¹⁹⁶

Translated by Eleanor LeVieux

Kandinsky in Paris 1934-44
T. M. Messer
Solomon R. Guggenheim Museum, NY.
(1985)

¹⁹⁶ W. Kandinsky, "Franz Marc," *Cahiers d'Art*, 11e année, no. 8-10, 1936, p. 274.

KANDINSKY AND SCIENCE: THE INTRODUCTION OF BIOLOGICAL IMAGES IN THE PARIS PERIOD

Vivian Endicott Barnett

After Kandinsky settled in Paris and began to paint again in 1934, his work manifested stylistic and iconographic changes. The artist was then sixty-seven years old; he stayed in France for almost eleven years, until his death there in 1944. During this last decade Kandinsky completed one hundred and forty-four oil paintings and more than two hundred and fifty watercolors and gouaches in addition to producing several hundred drawings. This substantial body of late work possesses a unity that sets it apart from what he had done between 1897 and 1933, although it can be related to his earlier work. The question of what is new and what is already familiar in Kandinsky's Paris pictures is complex and difficult to analyze. However, this is one of the essential questions posed by his late work. The visual evidence of Kandinsky's paintings and works on paper undeniably reveals that new motifs are introduced into his art in 1934. Moreover, it is generally agreed that during the Paris period Kandinsky's colors changed: he selected new hues, favored pastels rather than primaries and achieved original and intricate color harmonies. In the summer of 1934, at the time of Kandinsky's first exhibition at the Galerie des "Cahiers d'Art" in Paris, Christian Zervos wrote: "The influence of nature on his work has never been so perceptible as in the canvases painted in Paris. The atmosphere, light, airiness and sky of the Ile-de-France completely transforms the expressiveness of his work."¹

Other significant changes took place when Kandinsky resumed work in Paris early in 1934. He returned to painting large canvases, he began to add and to discrete areas of his paintings and he incorporated biomorphic—even biological—forms into his art. However, these features had been tentatively introduced before or—in the case of the large size of his pictures—had once been prevalent in Kandinsky's work. Thus, it becomes exceedingly difficult to differentiate between innovation and the culmination of earlier tendencies.

Certain biographical facts about the artist clarify and qualify the changes that attended Kandinsky's relocation to Paris. This was the second time he was forced to leave Germany because of political events. Moreover, Kandinsky and his wife, Nina, had left their native Russia in December 1921 and during the intervening years had lived in Weimar, Dessau and Berlin. Although he did not move to France until the very end of 1933, the transition from the Bauhaus in Germany to Paris took place gradually from 1928 to 1934.² He took annual trips there during this time, and his work was exhibited at the Galerie Zak in January 1929, at the Galerie de France in March 1930, in the *Cercle et Carré* group show at the Galerie 23 in the spring of 1930

I am grateful to Christian Derouet for generously permitting me to study Kandinsky's drawings, papers and books at the Musée National d'Art Moderne, Centre Georges Pompidou, in Paris, and to Jessica Boissel for assisting with my research there. I have relied upon several people for their scientific knowledge and I would like to thank them for their essential help: Dr. Michael Bedford, Harold and Percy Uris Professor of Reproductive Biology, Cornell University Medical College; Dr. Arthur Karlin, Professor of Biochemistry and Neurology, College of Physicians and Surgeons of Columbia University; Dr. Niles Eldredge, Chairman of Department of Invertebrates, American Museum of Natural History; Dr. Peter H. Barnett, Associate Professor of Philosophy, John Jay College, The City University of New York; and Eric Wild, The Annex of The New York Public Library and the Bibliothèque Centrale of the Musée National d'Histoire Naturelle in Paris have provided essential sources of information.

1. Christian Zervos, "Notes sur Kandinsky," *Cahiers d'Art*, 9e année, no. 3-8, 1934, p. 154. Author's translation.

2. Many years earlier, in 1926-27, Kandinsky had lived in secrecy outside Paris with Gabriele Münter.



fig. 1
Vasily Kandinsky
Start, 1934
Private Collection, Basel



fig. 2
Vasily Kandinsky
Two Surroundings, 1934
Collection Sredelijk Museum,
Amsterdam

and at the Surrealist exhibition of the *Association Artistique Les Surindépendants* in late October and November of 1933. Following the closing of the Bauhaus in Berlin in July 1933, Vasily and Nina Kandinsky vacationed at Les Sablettes near Toulon in France in late August and September and spent most of October in Paris. At the end of the month they returned to Berlin and remained there until December 16, 1933.³ After spending five days in Switzerland they arrived in Paris on December 21, 1933, and were installed in a new apartment in Neuilly-sur-Seine by the beginning of 1934.⁴ Not surprisingly there is a hiatus in Kandinsky's work between August 1933, when he painted *Development in Brown* in Berlin, and February 1934, when he resumed work in Paris and titled his first picture *Start* (fig. 1).

When Kandinsky began to paint again in 1934, he introduced certain specific and original motifs into his work. By analyzing the images in his pictures, it is possible to determine when new motifs entered his pictorial vocabulary and which forms persist from previous periods. For example, *Graceful Ascent* of March 1934 (cat. no. 21) retains the geometric and curvilinear imagery as well as the strict hierarchical grid-like structure of his Bauhaus work. However, the pastel hues and delicate nuances of value signal the lightness and sweetness of color he created during the Paris period. Likewise, imagery from earlier periods appears in *Two Surroundings* of November 1934 (fig. 2), which displays the whiplash line and the suggestion of rowers in a boat first seen in Kandinsky's painting before World War I, when he lived in Munich, as well as the overlapping circles and rows of calligraphic marks familiar from his work done when he was at the Bauhaus in Dessau.⁵ However, the addition of fine-grained sand to specific zones of the canvas that occurs here is unique to Kandinsky's work of 1934-35, although in previous years he had occasionally experimented with sprinkling sand on his paintings. Similarly, the distinctive black and white curved form at the right enters Kandinsky's pictorial vocabulary in 1934.

The new motifs the artist introduced in 1934 must be singled out and identified. These forms derive from the world of biology—especially zoology

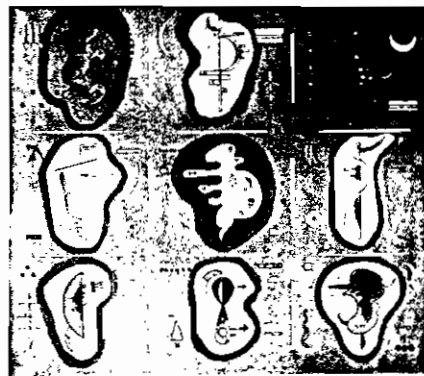


fig. 3
Shapes of an amoeba from Henry A. Barrows, *General Biology*, 1935, p. 98, after Verworn

fig. 4
Vasily Kandinsky
Each for Himself, 1934
Private Collection

3. Information from correspondence with Will Grohmann—especially Kandinsky's letters dated Oct. 8, 31 and Dec. 20, 1933—and Kandinsky's letter to Josef Albers dated Jan. 9, 1934. The letters to Grohmann cited in the text belong to the Archiv Will Grohmann, Staatsgalerie Stuttgart, and those to Albers belong to the Josef Albers Papers preserved in the Manuscript and Archive Department of the Sterling Memorial Library, Yale University, New Haven.
4. Information from Kandinsky's letters to Galka Scheyer dated Dec. 20, 1933, and Jan. 5, 1934, and his letter to Will Grohmann dated Jan. 7, 1934. The letters to Scheyer cited in the text are preserved in the Blue Four Galka Scheyer Collection of the Norton Simon Museum of Art, Pasadena.
5. For example, *Lines of Marks* (*Zichen reihen*), of July 1931. Collection Kunstmuseum Basel. HL watercolors, 442.
6. Kandinsky kept a *Handlist* or *Handlist* in which he recorded his paintings and specified their titles, exact dates, media, dimensions and exhibition histories. Each entry was numbered and accompanied by a small sketch. In addition, after 1922, Kandinsky maintained a separate *Handlist* for watercolors and gouaches.
7. The author emphasizes continuity and the unity of Kandinsky's pictorial modes in her book *Kandinsky at the*

and embryology—and from the work of other artists with which Kandinsky was familiar. In 1934 there is a remarkable incidence in his painting of images of amoebas, embryos, larvae and marine invertebrates, as well as leaf forms and punctuation marks. By focusing on the period from 1934 through 1937, the new imagery of Kandinsky's late work will be defined and interpreted. Once established, his new iconography is continued and elaborated upon throughout his Paris work. Not only paintings but also watercolors and drawings will be analyzed in basically chronological order.⁶ This essay will emphasize innovation rather than the sense of continuity that permeates Kandinsky's art.⁷ Works that incorporate new imagery will be discussed and, whenever possible, the new motifs will be related to specific sources.



Although the title *Start*, which Kandinsky gave the first painting he did in Paris, would appear to be an English word, "start" was an international term commonly used in sports.⁸ "Start" vividly conveys the fast beginning associated with a race or takeoff. With reference to Kandinsky's resumption of painting after a lengthy hiatus, it seems somewhat ironic but clearly expresses an optimistic beginning. Executed in tempera over plaster on a small board, this picture presents dark blue, green and purple elements against a light blue background. The artist contrasts circular, square and rectangular forms with four distinctly amoeboid shapes whose amorphousness is immediately remarkable and innovative. In fact, Kandinsky introduced images of amoebas (fig. 3)—a simple unicellular form of life—into his paintings in 1934. It is especially significant that this most elemental stage of life is depicted in a work of art titled *Start*. The concurrence of image and meaning cannot be accidental.

He elaborates upon the simple amoeboid form in the canvas *Each for Himself* of April 1934 (fig. 4; cat. no. 22). The central white figure and, to an even greater degree, the watercolor study for it (cat. no. 23), resemble an

Each for Himself =
Kandinsky's
Dessau...



fig. 5
Victor Brauner
Petite morphologie, 1934
Menil Foundation



fig. 7
Progressive stages in the development of vertebrate embryos from Barrows, 1935, p. 499, after Darwin



fig. 6
Vasily Kandinsky
Drawing for Each for Himself, 1934
Formerly Galerie Karl Flinker, Paris

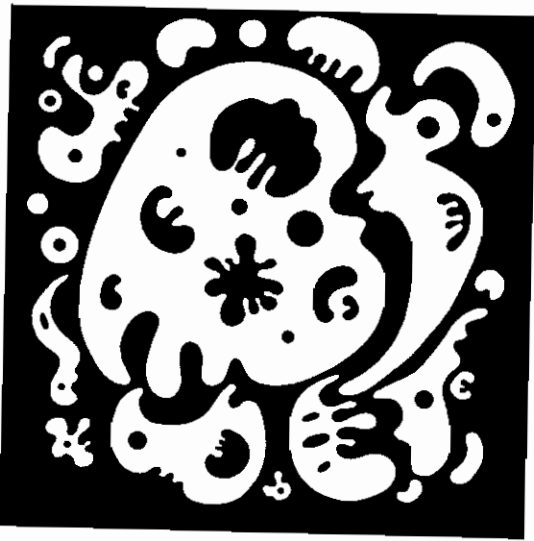


fig. 8
Vasily Kandinsky
Black Forms on White, 1934
Collection Association-Fondation
Christian et Yvonne Zervos, Vézelay

fig. 9
Hans Arp
Drawing from "L'Air est une Racine" in
Le Surréalisme au Service de la Révolution,
1933, p. 33
Collection The Museum of Modern Art
Library, New York



9. Margit Rowell, *Julio Gonzalez*, exh. cat., New York, 1983, cat. nos. 141, 142, 144-149 and Josephine Withers, *Julio Gonzalez: Sculpture in Iron*, New York, 1978, pl. 86.
10. *Minotaur*, no. 1, Feb. 1933, pp. 33-37.
11. See the view of Mondrian's atelier in *Cahiers d'Art*, 6e année, no. 1, 1931, p. 43. Also *Composition Bleu et Red* and *Composition with Red and Black* of 1936 in Michel Seymour, *Piet Mondrian, Late and Work*, New York, 1986, pp. 376, 377.
12. Dominique Bozo, *Victor Brauner*, exh. cat., Paris, 1972, n.p.
13. I am indebted to Dr. Michael Bedford for these observations made in conversation with the author, July 2, 1984.

amoeba in overall shape (including pseudopods) and in internal details such as vacuoles. Likewise, the figure in the upper right corner possesses decidedly cellular characteristics and vaguely embryonic qualities (fig. 7). Each figure is enclosed in a womb-like shape; in particular, the one at the lower right corner looks like a uterus. Although two of the nine images are amoeboid, others bear striking similarities to drawings by Pablo Picasso and Julio Gonzalez. For example, the sculptural form in the middle of the top row resembles Gonzalez's coeval drawings and sculptures, *Woman Combing Her Hair*, *Woman with a Mirror* and *Maternity*.⁹ The figure with female attributes on the right in the middle row brings to mind Picasso's drawings from *Une Anatomie*, which were published in *Minotaur* in February 1933.¹⁰

Not only are the figures in *Each for Himself* innovative but also the format of the picture is completely new in Kandinsky's work. By organizing three registers of three figures each in compartmentalized zones, Kandinsky presents the mathematical format that recurs in *Thirty* of 1937, *Fifteen* of 1938 (cat. nos. 68, 67, and 4 x 5 = 20 of 1943 (HL 725)). The simplicity and rigid geometry of the pictorial organization suggests Piet Mondrian's canvases.¹¹ However, the closest parallel can be found in a coeval painting by Victor Brauner, *Petite morphologie* (fig. 5), where nine figures are arranged in three rows. Moreover, the Surrealist overtones of several of Kandinsky's motifs indicate Brauner as a possible source of inspiration. Brauner had lived in Paris since 1930; his work was shown together with that of Kandinsky in the autumn of 1933 in the Surrealist exhibition organized by the *Association Artistique Les Surindépendants*.¹²

Before he painted *Each for Himself*, Kandinsky executed an ink drawing (fig. 6) in which the nine figures are depicted in a different sequence. In the final version two shapes have been reversed and each of the nine figures has been suspended within its womb-like space. In the painting horizontal and vertical bars separate the zones, and arrows, curving worm-like forms and small geometric details have been added to articulate the nine compartments. Kandinsky's painting *Figure in Red* of December 1930 (HL 535) foreshadows the Surrealist figures in *Each for Himself*. However, both the format and the elaboration of these forms in *Each for Himself* appear for the first time in the 1934 painting.

In *Black Forms on White* (fig. 8; cat. no. 45), which was also painted in April, the black amoeboid shapes shown on a white ground in the center suggest a macrophage. In addition, various forms of primitive life are indicated by the white shapes on black ground in the peripheral zones. Contemporary illustrations of both amoeboid and embryonic forms (figs. 3, 7) prove the relevance of biological knowledge to Kandinsky's painting. *Black Forms on White* also contains forms suggestive of elements in blood: two white circles with centers at the left edge can be identified as red cells, the two small amoeboid shapes at the top can be associated with white cells, and the small curved elements at the upper left and lower right corners look like platelets.¹³

The difficulty and the complexity of problems encountered in interpreting Kandinsky's pictures become apparent when *Black Forms on White* is compared with a drawing by Hans Arp (fig. 9) that was published in *Le Sur-*

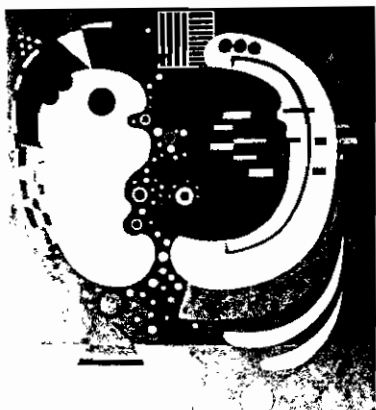


fig. 10
Vasily Kandinsky
Between Two, 1934
Private Collection

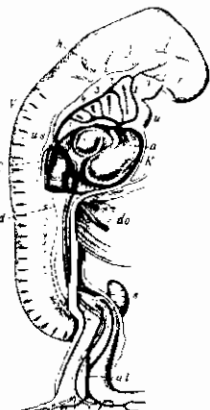


fig. 11
Human embryo from *Abstammungslehre: Systematik, Paläontologie und Biogeographie*, 1914, p. 61

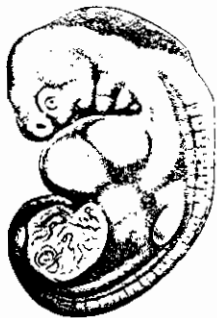


fig. 12
Human embryo from *Zellen-und Gewebelehre: Morphologie und Entwicklungsgeschichte. II. Zoologischer Teil*, 1913, p. 388

réalisme au Service de la Révolution in 1933.¹⁴ The curving forms, the large figure with eyes at the right and the overall configuration are amazingly similar in Arp's drawing and this painting of 1934. Did Kandinsky and Arp share common interests in specific biological forms and in natural growth? How was Kandinsky influenced by Surrealism? To what extent did he seek inspiration from science in general and zoology and embryology in particular?

In May 1934 Kandinsky completed the large painting *Between Two* (fig. 10). Here two curving forms face each other; they are defined as sand-covered areas on the canvas and are set off from the red background.¹⁵ The figure on the left bears an overwhelming resemblance to an embryo. The large eye and lateral articulation as well as the definition of specific areas leave no doubt as to the identity of the image and certainly demand explanation. Moreover, the curved form on the right also seems embryonic, its curved internal rod resembles a notochord and the adjacent black area can be interpreted as a yolk sac.¹⁶

In the artist's library, which is preserved in the Kandinsky Archive at the Musée National d'Art Moderne, Centre Georges Pompidou in Paris, is the encyclopedia *Die Kultur der Gegenwart*, to which Kandinsky referred in his illustrations from the mid-1920s for the book *Point and Line to Plane* (*Punkt und Linie zu Fläche*). The many volumes of this encyclopedia were published in Leipzig and Berlin during the teens. Diagrams of human embryos from two of the volumes in this series provide specific images known to the artist (figs. 11, 12). In addition, the circles on the red background that sur-

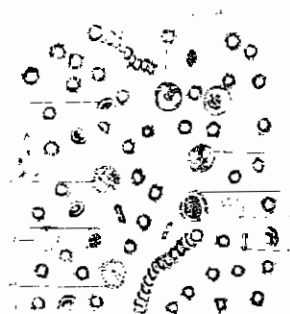


fig. 13
Blood cells from *Zoologischer Teil*, 1913, p. 74



fig. 14
Vasily Kandinsky
Blue World, 1934
Collection Solomon R. Guggenheim Museum, New York

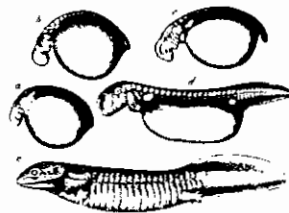


fig. 16
Salamander embryo from *Zoologischer Teil*, 1913, p. 146

round the embryonic form in *Between Two* resemble the blood cells illustrated in the encyclopedia volume that covers zoology on the page opposite a diagram Kandinsky copied for *Point and Line to Plane* (fig. 13).¹⁷ Even his title, *Entre deux*, alludes to the fact that a new life begins from the union between two people.

The next painting listed after *Between Two* in Kandinsky's Handlist of oil paintings is *Blue World* (fig. 14; cat. no. 25) which also dates from May 1934. Although the imagery of *Blue World* is more fanciful and imaginative than that of the preceding work, various embryological and larval forms can be identified. The most obvious embryo is situated to the right of center on an ochre sand-covered rectangle. In addition, the figure at the upper left resembles a fish embryo (fig. 15) and the curved large-bellied shape on the salmon-colored rectangular zone at the lower right suggests a salamander embryo (fig. 16). Adjacent to the latter in Kandinsky's painting are multi-colored, segmented creatures that seem to be insects.¹⁸ Moreover, the large blue worm-form in the middle of *Blue World* looks like a nematode (fig. 17).

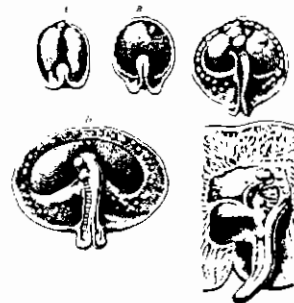


fig. 15
Fish embryo from *Zoologischer Teil*, 1913, p. 358



fig. 17
Nematode from *Zoologischer Teil*, 1913, p. 232

14. "L'Air est une Racine," *Le Surrealisme au Service de la Revolution*, no. 6, May 15, 1933, p. 53.

15. "Centenaire de Kandinsky," *XXe Siecle*, no. 27, Dec. 1966, p. 81, color repr.

16. Observations made in conversation with the author by Dr. Arthur Karlin, May 4, 1984, and by Dr. Michael Bedford, July 2, 1984.

17. See Kenneth C. Lindsay and Peter Vergo, eds., *Kandinsky: Complete Writings on Art*, Boston, 1982, vol. II, p. 650.

18. I would like to thank Dr. Niles Eldredge for bringing this to my attention in conversation, June 4, 1984.

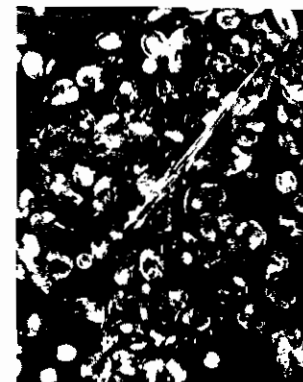


fig. 18
Vasily Kandinsky
Relations, 1934
Collection Mr. and Mrs. David Lloyd
Kreeger

fig. 19
Vasily Kandinsky
Dominant Violet, 1934
Collection Mark Goodson, New York

fig. 20
Medusas from Ernst Haeckel, *Kunstformen der Natur*, 1904, pl. 8

fig. 21
Deep-sea fish from *Die Koralle*, 1931, p. 495

fig. 22
Plankton from *Die Koralle*, 1931, p. 496

The volume of Kandinsky's encyclopedia devoted to zoology contains all of the scientific diagrams cited in the discussion of *Blue World* as well as related illustrations of insect embryos.¹⁹ All subsequent figures of scientific material reproduced from *Die Kultur der Gegenwart* appeared in volumes of the encyclopedia that belonged to the artist.

All of Kandinsky's canvases discussed above were exhibited at the Zervos's Galerie des "Cahiers d'Art" at 14, rue du Dragon in Paris from May 23 to June 9, 1934. They were included in a small one-man show that took place after Joan Miró's exhibition there and before Max Ernst's.²⁰ Kandinsky and Christian Zervos first met in 1927;²¹ Zervos published Will Grohmann's monograph on Kandinsky in 1931 and the following year the artist contributed an article to Zervos's publication, *Cahiers d'Art*. The first exhibition of Kandinsky's Paris pictures appears to have gone unnoticed by the French press, except for Zervos's article in *Cahiers d'Art*.²²

After this exhibition, during the summer of 1934, Kandinsky executed *Relations* and *Dominant Violet* (figs. 18, 19; cat. nos. 28, 27). In both he has accentuated precise, pictorial elements by applying fine-textured sand to the canvas and painting over it. The imagery in these pictures derives from the world of nature and relies upon curving lines and whiplash lines. In *Relations* the forms resemble snakes, spermatozoa, worms and parasites (for example, in the lower left corner) as well as birds. *Dominant Violet* prominently displays a large curving red shape on the right that looks like a nematode (fig. 17). However, the picture's connotations are predominantly those of the deep sea; the large, billowing forms look like medusas, jellyfish and related marine invertebrates. Moreover, the shape at the lower right corner distinctly looks like cross-sections of medusas.

Kandinsky's predilection for abstractions that originate in natural forms and his fanciful and imaginative stylization of natural forms bring to mind the well-known volumes by Ernst Heinrich Haeckel, *Kunstformen der Natur*,

which were published in 1904. Although Haeckel's beautifully colored illustrations belong to an Art Nouveau aesthetic, many reproductions can be linked with Kandinsky's work;²³ for example, one of the many renditions of medusas (fig. 20) can be related to *Dominant Violet*. Another plate from *Kunstformen der Natur* that depicts microscopic marine life (radiolaria) was reproduced in *Cahiers d'Art* early in 1934 and undoubtedly was known to Kandinsky.²⁴ The images in *Dominant Violet* and other paintings from 1934 to 1935 attest to Kandinsky's awareness of deep-sea life. Proof of his interest can be found in the papers he saved. Among many clippings Kandinsky took from magazines and newspapers is part of an article from *Die Koralle* by G. von Borkow called "Life Under Pressure: The Unveiled Life."²⁵ Two illustrations from this article are particularly relevant to *Dominant Violet*: the floula or deep-sea snail resembles the undulating pink form at the upper right and the deep-sea fish (fig. 21) corresponds to many curvilinear elements. Kandinsky's preoccupation with curved lines and his detailed analysis of them in *Point and Line to Plane* clearly indicate that he would have been fascinated by the bright and undulating lines of the deep-sea fish.

A greatly enlarged photograph of plankton (fig. 22) from von Borkow's article on deep-sea life has relevance to *Division-Unity* (cat. no. 47), among other pictures. Plankton, brine shrimp, snails and larval stages of marine life become small, curving motifs that are evocatively and amusingly rendered in Kandinsky's work. Traces of these natural forms can be perceived in *Composition IX, Multiple Forms*, both of 1936, *Sky Blue* of 1940 (cat. nos. 7, 60, 116) and *Sweet Trifles* of 1937 (fig. 42).

19. *Zellen- und Gewebelehre: Morphologie und Entwicklungsgeschichte. II. Zoologischer Teil*, Berlin and Leipzig, 1903, pp. 268, 269.

20. *Cahiers d'Art*, 9e année, no. 1-4, 1934, opposite p. 11. See also Kandinsky's letter to Miers dated June 19, 1934.

21. Information supplied by Christian Zervos; their earliest correspondence dates from Dec. 1927.

22. There was no mention in *L'Urbanisageant* although Miró's exhibition at the same gallery was reviewed in the Mar 17 issue. It is possible to determine which paintings were exhibited from the Händler, which corresponds for the most part with the pictures reproduced in *Cahiers d'Art*, no. 8-9, 1934, pp. 149-157.

23. Ernst Haeckel, *Kunstformen der Natur*, Leipzig, 1904, pls. 4, 3, 18, 30, 47, 84, 94.

24. Pl. 31 was reproduced in *Cahiers d'Art*, 9e année, no. 1-4, 1934, p. 100.

25. G. von Borkow, "Leben unter Hochdruck: Die entschleierte Welt der Tiefsee." *Die Koralle*, Jg. 6, Heft 11, Feb. 1931, pp. 495-499. Kandinsky also cut out from the same issue the article "Die Zünge ist 14 50 interessant!" by L. Schwarzhuss with photographs of cars' tongues seen under magnification.

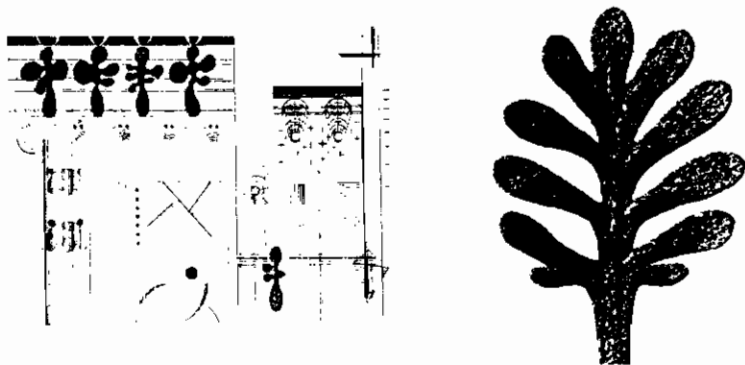


fig. 23
Vasily Kandinsky
Fragile-Fixed, 1934
Formerly Galerie Maeght, Paris

fig. 24
Leaf from Karl Blossfeldt, *Urformen der Kunst*, 1929, pl. 37

In the painting *Fragile-Fixed* of September 1934 (fig. 23), a specific leaf-shape enters Kandinsky's vocabulary. It recurs in modified form in *Balancing Act* of February 1935 (HL 612) and again in *Brown with Supplement of March* of the same year (cat. no. 53). Here the bright green leaves recall the prominent and remarkably similar leaves in Picasso's work: the 1929 sculpture that was reproduced in *Minotaure* in 1933; the 1931 still life illustrated the same year in *Cahiers d'Art*; and *The Lamp* of June 1931, which was exhibited at the Galeries Georges Petit in Paris in 1932.²⁶ Although Matisse's leaves have been singled out as the point of reference, they postdate the appearance of leaf-forms in Kandinsky's work.²⁷ The large scale and stylized outline of Kandinsky's leaves point to still another source known to him: namely Karl Blossfeldt's *Urformen der Kunst* which was published in Berlin in 1929. Two copies of the book exist in the artist's library at the Musée National d'Art Moderne. Blossfeldt's photographs consist primarily of flowers and leaves magnified to such a degree that they become abstractious (fig. 24). In June 1929 three such photographs were reproduced in *Documents*.²⁸ Blossfeldt's significance as a photographer, like Haeckel's as an illustrator, lay in his discovery of art in nature.

The last painting Kandinsky did in 1934 exemplifies the richness of his imagery and the invention of his pictorial forms. *Striped* (cat. no. 29) unites alternating black and white vertical bands, wiplash lines and biological forms with similar configurations (snakes, worms and nematodes), and it juxtaposes birds at the upper left with an exclamation point at the upper right. In the central segment, a red circle at the top contrasts with a star-shaped biomorphic form below. In a preparatory drawing (fig. 25), the distinctive structure of this multientacted form emphasizes the central nucleus and accentuates the many entwining legs—characteristics of an echinoid, a



fig. 25
Vasily Kandinsky
Drawing for *Striped*
Collection Musée National d'Art Moderne, Centre Georges Pompidou, Paris, Kandinsky Bequest



fig. 26
Sea polyps from *Allgemeine Biologie*, 1915, p. 411

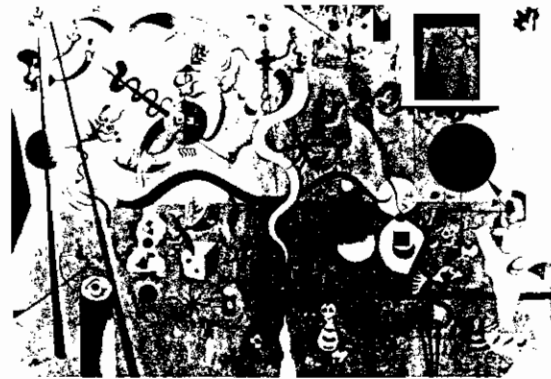


fig. 27
Joan Miró
Carnival of Harlequin, 1924-25
Collection Albright-Knox Art Gallery, Buffalo, New York, Room of Contemporary Art Fund, 1940

species related to the common five-legged starfish. The depiction of a stage in the growth of sea polyps in the biology volume of Kandinsky's encyclopedia (fig. 26) recalls the star shape in *Striped*. In the canvas the distinctions between nucleus and tentacles are preserved and the colorful dots in the center correspond to those in the diagram.

The affinities between Kandinsky's imagery and forms in nature do not, however, preclude references to paintings by other artists. The tentacled, many-legged form articulated most clearly in Kandinsky's drawing brings to mind Miró's familiar sign for female genitalia. In writing about his picture *Carnival of Harlequin* of 1924-25 (fig. 27), Miró refers specifically to the female sex organ in the form of a spider; he depicts it three times within the painting.²⁹ Moreover, in both Kandinsky's and Miró's paintings there are ladders at the upper left and white teardrop shapes adjacent to eyes at the lower left. Comparison of *Striped* and *Carnival of Harlequin* reveals not only similarities in specific motifs but also in overall composition. Soon after his arrival in Paris, Kandinsky met Miró and he surely saw the Surrealist's work in exhibitions—such as that at the Galerie des "Cahiers d'Art" in May 1934—as well as in periodicals. In fact, *Carnival of Harlequin* and *The Tilled Field* (fig. 45) were among several influential pictures by Miró that were illustrated in the first issue of *Cahiers d'Art* in 1934 (no. 1-4), which immediately preceded the issue with Zervos's article devoted to Kandinsky's first Paris pictures. The motifs in such paintings by Kandinsky as *Delicate Accents* of 1935 (HL 624), *Black Points* (HL 637) and *Accompanied Center* of 1937 (cat. no. 86) attest to his familiarity with Miró's work.³⁰

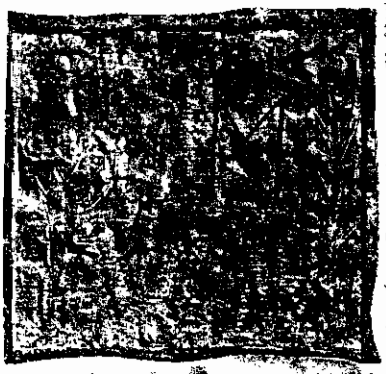
26. "L'Atelier de sculpture." *Minotaure*, no. 1, 1933, p. 20 and Christian Zervos, *Pablo Picasso*, Paris, 1955, vol. VII, nos. 326, 347, 377.

27. See Will Grohmann, *Kandinsky: Life and Work*, New York, 1958, p. 228.

28. *Documents*, no. 3, June 1929, pp. 165, 167, 168.

29. Steven A. Nash, *Albright-Knox Art Gallery: Painting and Sculpture from Antiquity to 1942*, New York, 1970, pp. 415-417.

30. See Stanley William Hayter, "The Language of Kandinsky," *Magazine of Art*, vol. 38, May 1945, pp. 178-179, for a comparison of *The Carnival of Harlequin* and *Accompanied Center*.



During 1934 certain specific signs entered Kandinsky's pictorial vocabulary. The exclamation point makes its first appearance in *Striped*, and a single quotation mark or inverted comma can be discerned at the left edge in *Dominant Violet* and at the bottom center in *Striped*. The latter motif is isolated and accentuated in *Green Accent* of 1935 (cat. no. 51) and totally dominates *Circuit* of 1939 (cat. no. 114). The exclamation point recurs in *Rigid and Bent* of 1935 (HL 625) and *Sweet Trifles* of 1937 (fig. 42). These signs had appeared in many works by Miró: for example, an exclamation point can be found in *Le Renversement* of 1924 which belonged to Katherine S. Dreier.³¹ However, Kandinsky's primary source of inspiration was undoubtedly Paul Klee. Pictorial signs such as arrows, exclamation points and apostrophes as well as numbers and words functioned as integral parts of Klee's compositions.³² Kandinsky and Klee were close friends who met first in Munich in 1911 and who worked together at the Bauhaus. In fact, Klee and Kandinsky lived in a Master's double house in Dessau from June 1926 until early 1933 and, even after they left Germany, stayed in contact. Kandinsky knew Klee's work intimately and would have understood the incorporation of punctuation marks in his art. Exclamation points can be found in Klee's pictures in the late teens and early twenties, and they become especially prevalent in 1932 (for example, fig. 28).³³ Kandinsky was surely familiar with two of Klee's paintings that include exclamation points: *Around the Fish* of 1926 (Collection The Museum of Modern Art, New York), which was reproduced in Grohmann's monograph on Klee in 1929, as well as his *Departure of the Ghost* of 1931 (Collection Mr. and Mrs. Burton Tremaine, Meriden, Connecticut), which was illustrated in the 1934 issue of *Cahiers d'Art* that also contained Zervos's article on Kandinsky. In addition, commas are prominently placed in Klee's paintings such as *Stadt R* of 1919 (Collection Städtische Galerie im Lenbachhaus, Munich) and *Initial Landschaft* of 1932 (Private Collection).



fig. 29
 Vasily Kandinsky
Succession, 1935
 The Phillips Collection, Washington, D.C.

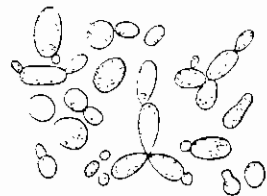


fig. 30
 Saccharomyces fungus from *Zellen-und Gewebelehre, Morphologie und Entwicklungsgeschichte, I. Botanischer Teil*, 1913, p. 74

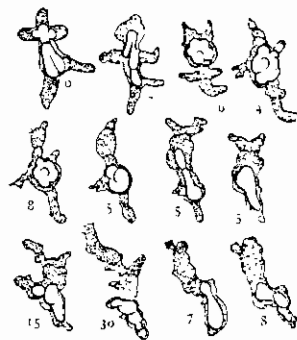


fig. 31
 Cells of salamander larvae from *Zoologischer Teil*, 1913, p. 35

In comparison with the remarkable innovations made in Kandinsky's work from 1934, the introduction of new motifs subsided during 1935-36. At this time the artist developed and elaborated upon the imagery he had recently invented. Paintings such as *Accompanied Contrast* and *Two Green Points* (cat. nos. 48, 54) retain images prevalent during the early 1930s, while the style of others shares similarities with the geometric idiom associated with the Bauhaus period in general: for example, *Two Circles* (HL 614) and *Points* (HL 621). In terms of specific images reflecting an awareness of natural sciences and biomorphic forms, several pictures provide relevant motifs. *Succession* (fig. 29; cat. no. 57), which was painted in April 1935, consists of four horizontal registers that contain brightly colored, curving shapes. This format is familiar from the Bauhaus period, specifically from the watercolor *Lines of Marks* of 1931 (HL 442). Although the 1935 canvas and the earlier work on paper share the same composition, the imagery of the Paris picture represents a significant departure from that of his Bauhaus work. The thrust of the curving shapes and the distinctive placement of small circles balanced on these forms in the painting recall an illustration of *saccharomyces fungus* in Kandinsky's encyclopedia (fig. 30). A diagram of cells from salamander larvae (fig. 31) in another volume of this encyclopedia can also be associated with the dynamic forms in *Succession*. Not only the individual shapes but also their schematic articulation is similar in Kandinsky's painting and the scientific diagrams.

31. See Robert L. Herbert, Eleanor S. Apter and Elise K. Kenney, eds., *The Société Anonyme and the Dreier Bequest at Yale University: A Catalogue Raisonné*, New Haven, 1984, pp. 462-493. It is possible that Kandinsky had seen Miró's picture reproduced in the 1926 catalogue of the Société Anonyme exhibition at the Brooklyn Museum since he knew Katherine Dreier and corresponded with her often.

32. See Rosalind E. Krauss, "Magnetic Fields: The Structure," in *Joan Miró: Magnetic Fields*, exh. cat., New York, 1972, p. 29.

33. Klee *Oeuvre Catalogue*, nos. 75, 166, 168, 175, 213, 240.

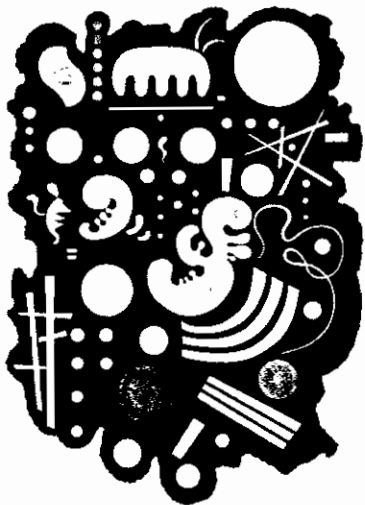


fig. 32
Vasily Kandinsky
Variiegated Black, 1935
Formerly Galerie Maeght, Paris



fig. 33
Vasily Kandinsky
Detail of *Composition IX*, 1936
Collection Musée National d'Art
Moderne, Centre Georges Pompidou,
Paris

Several paintings from 1935-36 depict embryos. In *Variiegated Black* of October 1935 (fig. 32) three embryonic forms are recognizable: an early stage at the left edge, an adjacent, more clearly identifiable one painted white with a pink eye and a bright green imaginative variant on the right. In Kandinsky's major canvas *Composition IX* (cat. no. 7), which was completed by February 1936, an obviously embryonic shape at the upper left is represented together with a yolk sac. Even the pink and white vertical zones can be read as the placental barrier that separates the fetal side from the maternal side. In the central portion of *Composition IX* there is ambiguity in the form that resembles both an embryo and a brine shrimp or crayfish (fig. 33).³⁴ Elsewhere in the painting embryonic images also merge with allusions to brine shrimp and plankton (see fig. 22). An exactly coeval picture, *Multiple Forms* (cat. no. 60), manifests similar embryonic and crustacean images. Comparison of the canvas with a preparatory drawing reveals significant differences between the preliminary and final versions. The embryonic form at the upper right has not been explicitly defined in the sketch for *Multiple Forms* (fig. 34); however, the fish at the upper left has been omitted in the final version. This depiction of a fish resembles the angler fish in Kandinsky's clipping from von Borkow's article in *Die Koralle*. The image at the lower corner of *Multiple Forms* is clearly that of a fish. In *Rigid and Bent* of December 1935, Kandinsky includes a marine creature—probably a sea horse—painted green and raised in slight relief because sand was added to the pigment.

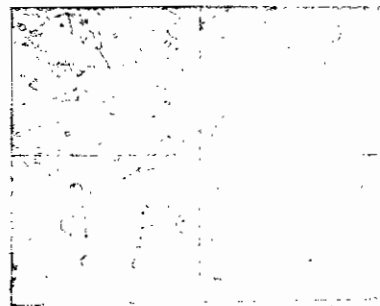


fig. 34
Vasily Kandinsky
Drawing for *Multiple Forms*, 1936
Collection Musée National d'Art Moderne,
Centre Georges Pompidou, Paris,
Kandinsky Bequest



fig. 36
Max Ernst
The Interior of Sight: The Egg
published in *Cahiers d'Art*, 1933



fig. 35
Vasily Kandinsky
Green Figure, 1936
Collection Musée National d'Art
Moderne, Centre Georges Pompidou,
Paris, Kandinsky Bequest

It is difficult to identify any specific biological sources for *Green Figure* of March 1936 (fig. 35; cat. no. 62), although it brings to mind cross-sections of organisms. The greenish-tan figure suggests parallels with the work of Max Ernst and Picasso. In 1929 Ernst painted several versions of *The Interior of Sight: The Egg* where bird forms are contained within an oval, and in 1935 he did a series on the *Garden of the Hesperides* which also relates to *Green Figure*.³⁵ The organic contortions of Kandinsky's figure as well as the way it is separated by a "sac" from the surrounding pinkish tan background may refer to the first version of Ernst's *The Interior of Sight: The Egg*, which was reproduced in *Cahiers d'Art* in 1933 (fig. 36). Several of Picasso's paintings of acrobats were published in *Documents* in 1930; these abstracted figures have elongated and distorted limbs similar to the shapes in *Green Figure*, and in some works the colors feature gray-tan and green (see cat. no. 63).³⁶ Despite vague biomorphic associations, *Green Figure* appears to be an amalgam of figures that were familiar to Kandinsky from other artists' work.

34. See Werner Spies with Sigrid and Günter Merken, *Max Ernst, Werke 1929-38*, Houston and Cologne, 1979, nos. 1564-1567, 1574-1579, 2200-2202.

36. See Zervos, VII, nos. 307-310 and Michel Lerris, "Toiles récentes de Picasso," *Documents*, 2e année, no. 2, 1930.

34. See *Zoologischer Teil*, p. 249.

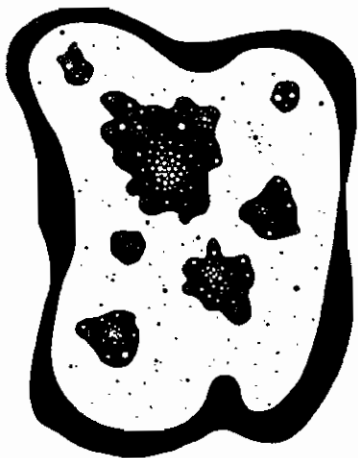


fig. 37
Vasily Kandinsky
Environment, 1936
Collection Solomon R. Guggenheim
Museum, New York

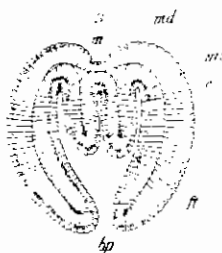


fig. 39
Stages in the development of a worm from
Zoologischer Teil, 1913, p. 21



fig. 40
Human and animal sperm from
Zoologischer Teil, 1913, p. 56

In complete contrast stands another painting by Kandinsky, *Environment* from October 1936 (fig. 37). Here the artist has depicted in greatly enlarged scale an amoeba. The cell wall is clearly defined; many small multi-colored circles represent the cytoplasm and several colored zones correspond to vacuoles and a nucleus. Moreover, Kandinsky's painting closely resembles an illustration in his encyclopedia (fig. 38). Of all Kandinsky's works where biological references can be discerned, *Environment* is probably the most direct and obvious.

Within the checkerboard format of *Thirty* (cat. no. 68) calligraphic and geometric patterns are placed over thirty alternately black and white squares. Kandinsky defines the images with wit and lively energy: an amoeba (second row and second from the left), a curving white form with six pendules (fourth row and fourth from the left) that resembles a developmental stage of a worm (fig. 39) and several varieties of sperm (top row at far left and fourth row at far left) that recur in many pictures and correspond to scientific illustrations (fig. 40). In general, the motifs are already familiar from Kandinsky's work. In *Thirty* the strict and exacting format of compartments has even greater meaning than the individual elements in its clear relation to scientific texts and diagrams (for example, fig. 41).

Another canvas from 1937, *Sweet Trifles* (fig. 42), is based on rigid bilateral compartmentalization. Within the boxes Kandinsky juxtaposes geometric patterns with biomorphic forms. He places an exclamation point over an earthworm balancing on an imaginatively colored caterpillar and positions an arrow next to a bright blue amphibian perching on a slug. The playfulness and humor of the picture are conveyed by its title, *Bagatelles douces*, and by the exclamation point. On the left side the articulation of many forms sug-



fig. 41
Diagram of plant cells from *Botanischer
Teil*, 1913, p. 53



fig. 45
Joan Miro
The Tilled Field, 1923-24
Collection Solomon R. Guggenheim
Museum, New York

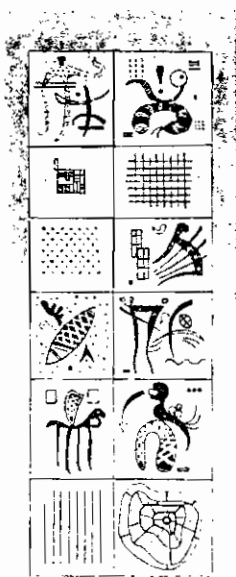


fig. 42
Vasily Kandinsky
Sweet Trifles, 1937
Collection Musée National d'Art
Moderne, Centre Georges Pompidou,
Paris, Kandinsky Bequest



fig. 43
Nucleus of an echinoderm from
Zoologischer Teil, 1913, p. 28

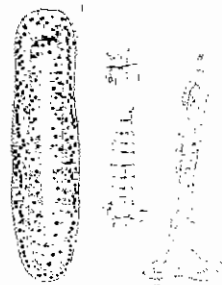


fig. 44
Stages in the development of a hydra
from *Zoologischer Teil*, 1913, p. 197

gests cellular matter; moreover, in the lower right corner the multicellular form distinctly resembles an illustration of the nucleus of an echinoderm in the zoology volume of *Die Kultur der Gegenwart* (fig. 43).

Likewise, *Accompanied Center* (cat. no. 86) contains a clearly biological reference at the upper right: the horizontal, wavy, segmented shape looks like cross-sections of hydras that are illustrated in his encyclopedia (fig. 44). *Accompanied Center* is filled with an abundance of images evocative of marine life: sea worms, hydras, diatoms, five larval forms suspended from a horizontal line at the lower right and scaly, spiny orange patterns in the center. In addition—and on a different level—Kandinsky's painting resembles Miro's *The Tilled Field* (fig. 45) in the wavy lines at the lower left, the prominent eye

fig. 38
Cell of worm egg from *Zoologischer Teil*,
1913, p. 49

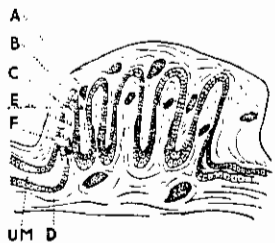


fig. 46
Placental tissue from H. C. Waddington,
How Animals Develop, 1936, p. 107



fig. 48
Praying mantis laying her eggs

fig. 47
Vasily Kandinsky
Grouping, 1937
Collection Moderna Museet, Stockholm

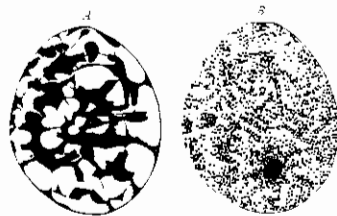
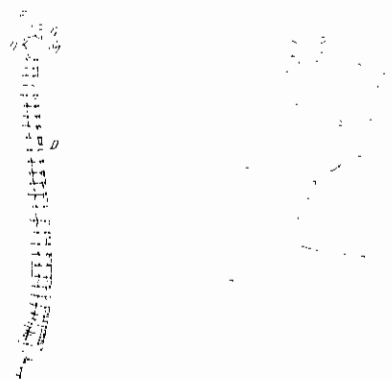


fig. 49
Salamander cell from *Allgemeine Biologie*,
1915, p. 231

fig. 50
Annelid from *Zoologischer Teil*, 1913,
p. 234

fig. 51
Vasily Kandinsky
Untitled drawing
Collection Musée National d'Art
Moderne, Centre Georges Pompidou,
Paris, Kandinsky Bequest



at the upper right, the inclusion of flags and in the spikey black points outlining shapes. Although it is doubtful that Kandinsky could have seen Miró's painting in an exhibition, he would have found it reproduced on page thirty in the first issue of *Cahiers d'Art* in 1934.

During the summer of 1937 Kandinsky painted *Capricious Forms* (cat. no. 89), in which the imagery is emphatically biological. Yellow, pink, tan and green shapes look like sections of soft tissue. Specifically, the forms at bottom center and in the middle at the left edge are clearly recognizable as embryonic; others resemble contemporary illustrations of placental tissue (fig. 46). In a sketchbook containing many preparatory drawings, Kandinsky made a study with colored pencils for *Capricious Forms* which includes a greater variety of hues than the final version and shows an overall pink tonality.³⁷ In the canvas red and green circles accentuate the shapes as well as the detailed red, blue and green linear patterns that articulate distinct layers of tissue.

The next painting recorded in Kandinsky's Handlist is *Grouping* (fig. 47), which was painted in September and October 1937. Two preparatory drawings as well as the final painted version reflect an insect world. Insect legs and bodies are suggested throughout, and a well-defined winged creature occupies the lower right corner. Basically mosquito-like, this creature also bears a certain resemblance to a photographic illustration of a praying mantis laying her eggs that Kandinsky clipped from an unidentified German magazine (fig. 48).³⁸ Among the artist's papers preserved in the Kandinsky Archive are other reproductions, in color, of insects that Kandinsky cut out and mounted on cardboard.³⁹ Insects were symbolic and highly suggestive images

within Surrealist art. In 1934 André Masson painted *Betrothal of Insects and Summer Divertissement*, which depict praying mantises: these pictures must be seen in relation to Kandinsky's 1937 canvas.⁴⁰

In April 1938 Kandinsky completed two oil paintings in which there are clear biological references. *Ordered Arrangement (Many-Colored Ensemble)* (cat. no. 92) contains within an oval center a plethora of small circles that have cellular associations (fig. 49). In addition, there are shapes resembling nematode and annelid worms (fig. 50), a pink bird at the left and an embryonic form at the right. It was probably in relation to this embryo that Kandinsky made two small sketches (one of which is reproduced as fig. 51). To an even greater degree than in the painting *Ordered Arrangement (Many-Colored Ensemble)*, the biological origins of the imagery are evident in these drawings. More stylized variations on this embryonic form persist in his work throughout the late 1930s and early 1940s. In *Penetrating Green* from April 1938 (cat. no. 93) a red sperm is immediately recognizable and is prominently placed in the middle of the composition within a vertical receptacle on a green ground. Two large shapes that vaguely resemble sperm fill the lateral zones. Even Kandinsky's title is expressive of the imagery and leaves little doubt about the meaning.

By 1938 Kandinsky's images become more fanciful, stylized and even decorative. For example, *Sky Blue* of March 1940 (cat. no. 116) retains biomorphic forms familiar from the first years in Paris, but these are transformed into stylizations of the motifs. For the most part, Kandinsky's paintings, watercolors and drawings from 1938 and after no longer manifest the overtly zoological and embryological motifs that characterize his work from 1934 to 1937. There are, however, vestiges of biological entities as well as specific biomorphic images. In general, Kandinsky does not depict embryonic forms after 1938; however, the exceptions—*Intimate Celebration* of 1942 and *Brown Impetus* of 1943 (cat. nos. 144, 155)—refer back to *Blue World* (cat. no. 25)

37. Musée National d'Art Moderne, Centre Georges Pompidou, Paris, Kandinsky Bequest AM 1981.65.678

38. The caption reads "Gottesanbeterin legt ihre Eier," and it was taken from p. 117.

39. These are of watercolor illustrations by E. v. Bruckhausen and are from pp. 764 and 765 of an unidentified publication.

40. William S. Rubin and Carolyn Lanchner, *André Masson*, exh. cat., New York, 1977, pp. 45, 140, reprs. See also William S. Presley, "The Praying Mantis in Surrealist Art," *The Art Bulletin*, vol. LV, Dec. 1973, pp. 600-615.

and *Varnegated Black* (fig. 52). Another painting from 1943, *Circle and Square* (cat. no. 156) shows four figures with clear sexual references: the representation of phallic images is indisputable. Although Kandinsky's title, *Circle and Square* (*Cercle et carré*), alludes to the magazine and exhibitions organized by the group of that name, it cannot disguise the nature of his imagery.

In addition to the visual evidence which has been described at length, there is substantial physical evidence of other kinds and significant documentary proof to link images in Kandinsky's art with scientific illustrations in his encyclopedia. In preparation for *Point and Line to Plane*, which was published in 1926, he executed a pencil drawing (fig. 52). The inscription provides the source, because in it Kandinsky copied the caption, "*Lockeres Bindegewebe von der Ratte*," and also specified the title, "*D. Kult. d. Gegenw.*," the volume, "*Abteilung IV*," and page number.⁴¹ It is this volume on zoology that contains by far the largest number of illustrations corresponding to images in Kandinsky's work. In addition to the obvious reference in *Point and Line to Plane*, the artist left traces in his own copy of this encyclopedia volume. Next to page five, where an amoeba is illustrated (fig. 53), there is a small piece of paper with Kandinsky's handwriting, and facing page 234, where an annelid is reproduced (fig. 50), his calling card is inserted as a marker.⁴² In the other volume of *Abteilung IV*,⁴³ whose subject is botany, Kandinsky put slips of paper between pages 138 and 139 as well as 154 and 155, and wrote on each "*Kreis*" or circle. The illustration on page 138 depicts the cross-section of a plant stem with many rings of quite uniform circles, while that on page 139 (fig. 54) contains rounded shapes with much greater variety in size and configuration. In view of Kandinsky's love for the circle as a formal element as well as the symbolic significance of the motif in his work from about 1922 to 1930,⁴⁴ it is not surprising that he would respond to obviously circular forms in his encyclopedia. What is interesting is the way he sees the abstract forms of art in nature.

In the volume on general biology, the invitation card to the opening of Kandinsky's exhibition of watercolors and drawings at the Galerie Ferdinand Möller on January 30, 1932, is placed between pages 218 and 219. In addition, inserted in the section on botany in the volumes on physiology and ecology are an invitation to an opening for the *Kreise der Freunde des Bauhauses* on January 15, 1932, and an invitation to a Lyonel Feininger exhibition organized by this group in January 1932. The fact that all three markers date from January 1932 proves that Kandinsky was using his encyclopedia at that time. During the 1920s volumes of the same encyclopedia were influential for Paul Klee.⁴⁵ Moreover, other artists at the Bauhaus were aware of various volumes on science in this series. However, the impact of its biological illustrations—principally from the volume on zoology—becomes apparent in Kandinsky's work only after he moved to Paris.

Likewise, there is evidence that Kandinsky cut the photographic reproductions now preserved among his papers out of magazines and newspapers during the early 1930s, while he was still at the Bauhaus.⁴⁶ The article on

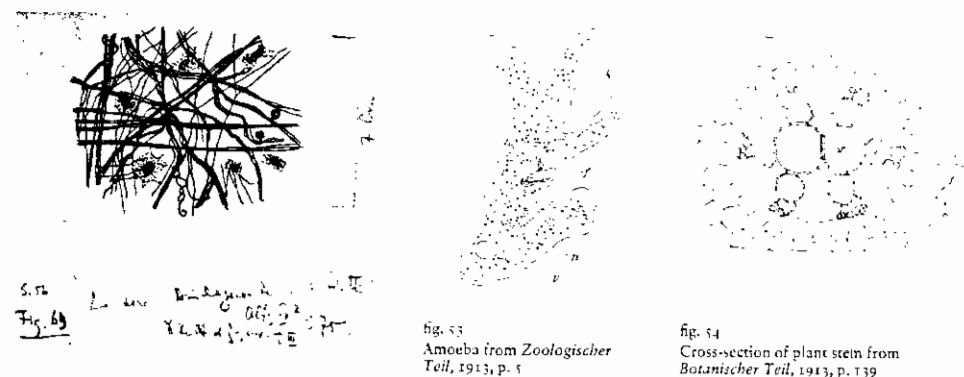


fig. 52
Vasily Kandinsky
Drawing for *Point and Line to Plane* after
Zoologischer Teil
Collection Musée National d'Art
Moderne, Centre Georges Pompidou,
Paris, Kandinsky Bequest

fig. 53
Amoeba from *Zoologischer
Teil*, 1913, p. 5

fig. 54
Cross-section of plant stem from
Botanischer Teil, 1913, p. 139

deep-sea life in *Die Koralle* (figs. 21, 22) appeared in February 1931. Virtually all the press cuttings have captions in German, thus indicating a date prior to 1934. Although most of the specific publications remain unknown pending further research, many of the images are of animals, airplanes, people from primitive cultures, objects shown under high magnification and subjects generally characterized as technology and nature. In his Bauhaus teaching notes for the second, or summer, semester of 1931, Kandinsky compared art, science, technology and nature.⁴⁶ His list of images to show includes a Mercedes-Benz car, a Junkers airplane, an aerial view and a giraffe: a photograph or magazine illustration of each still exists among the artist's papers. Another very significant clipping (fig. 55) shows diatoms arranged within a rigid, bilateral format that resembles the pictorial organization of *Sweet Trifles* (fig. 42). Diatoms—unicellular algae or microscopic plankton found in both fresh and salt water—are recognizable in several of Kandinsky's paintings from the Paris years.

Thus, Kandinsky's interest in scientific and natural phenomena is demonstrated by his treatise *Point and Line to Plane* and by his pedagogical material for the Bauhaus courses. Likewise, his familiarity with volumes of his encyclopedia, *Die Kultur der Gegenwart*, is confirmed by these sources.⁴⁷ However, the artist only introduced biological motifs into his work after he moved to Paris. It is relevant, at this point, to consider what natural history and scientific resources were available there in 1934. Although there is no proof that Kandinsky ever visited the *Muséum National d'Histoire Naturelle* in Paris, its extensive and impressive collections, which were permanently on view in galleries adjacent to the *Jardin des Plantes*, would have been accessible and instructive. Photographs dating from 1932 to 1935 in the *Muséum Archives* document the *Galerie de Zoologie* and the *Galerie d'Anatomie Comparée de Paléontologie et d'Anthropologie*. The former contained

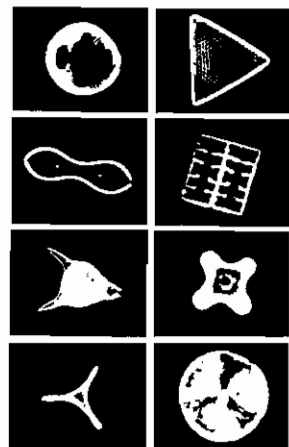


fig. 55
Diatoms

41. See also *Physiologie und Ökologie*, I. *Botanischer Teil*, 1917, p. 165, which is reproduced as fig. 73 in *Point and Line to Plane*.

42. The author studied the encyclopedia volumes in Apr. 1984 at the Centre Georges Pompidou.

43. See Grohmann, pp. 187-188 and Barnett, 1983, pp. 43-44.

44. Sarah Lynn Henry, "Form—Creating Energies: Paul Klee and Physics," *Artis*, vol. 52, Sept. 1977, pp. 119, 121. However, according to Felix Klee in conversation with the author, July 19, 1984, the encyclopedia series is not included among the books that belonged to Paul Klee that are now in his possession.

45. I am indebted to Christian Derouet for this information and also for bringing the clippings to my attention.

46. Vassily Kandinsky, *Tutti gli scritti: Punto e linea nel piano, Articoli teorici, I corsi inediti al Bauhaus*, Philippe Sers, ed., Milan, 1975, p. 283.

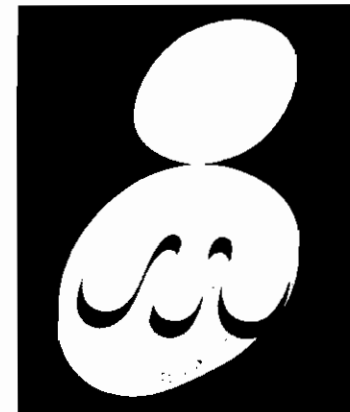
47. *Ibid.*, pp. 284, 289, 290.

vast numbers of cases filled with all varieties of fish, starfish, crustacea, shells and insects.⁴⁸ Immediately upon entering the latter, one finds thousands of fetal specimens in glass jars. Comprising many species and organized according to the embryological development of organs and central systems, this permanent exhibition makes an overwhelming and unforgettable impression on the viewer. The collection of comparative anatomy was founded by Georges Cuvier.⁴⁹ It cannot be coincidental that in one of Kandinsky's encyclopedia volumes, there are obvious signs of perusal (coffee stains) as well as a marker for the pages relevant to Cuvier.⁵⁰ The Zoology Gallery and the Comparative Anatomy Gallery at the Museum were established in the late nineteenth century and to this day retain virtually their original appearance. It should be mentioned that, in contrast, the Musée d'Ethnographie at the Muséum National d'Histoire Naturelle was closed in August 1935 and reopened at a new location at the present Trocadéro on the occasion of the *Exposition Internationale des Arts et Techniques* in 1937.

During the mid-1930s many artists took an active interest in various scientific disciplines and incorporated related images and concepts in their work. Marcel Duchamp, Miró, Ernst and Klee as well as Kandinsky demonstrated an awareness of and responsiveness to science. Many images in Miró's pictures clearly derive from biological species and refer to natural phenomena. Miró uses technological motifs such as machines and utilitarian objects as a springboard for other paintings: his large abstract *Painting of June 1933* (Collection The Museum of Modern Art, New York) is based on a collage of woodworking tools.⁵¹ Ernst found inspiration in scientific illustrations throughout his career. In 1934 he painted *Blind Swimmer (The Effect of Touch)* (formerly Collection Julien Levy), which is an amalgam of two photographs demonstrating air flow that were published in *La Nature* magazine in September 1901.⁵² His coeval painting titled *Blind Swimmer* (Collection The Museum of Modern Art, New York) is based on a diagram showing the effects of magnetism. Both canvases were reproduced in the issue of *Cahiers d'Art* in 1934 that included Kandinsky's recent pictures, and Ernst's work was exhibited at Zervos's gallery in June of that year. Moreover, Ernst's 1934 mural for the Corso Bar in Zürich relies upon an illustration from *Flore des serres et des jardins* of 1847. In canvases as well as collages, Ernst presents images from nineteenth- and early twentieth-century scientific illustration and photography.

Early in 1934 in Paris Kandinsky surely became aware of a general interest in science there and he must have perceived even more acutely the current predilection for Surrealist art. The previous autumn Kandinsky had exhibited with the Surrealists in the annual show organized by the *Association Artistique Les Surindépendants* and, in this regard, Arp had written to him: "your paintings hang beautifully, you lead the Surrealist procession."⁵³ Kandinsky had known Arp since 1911 and had participated in Dada activities at the Galerie Dada and Cabaret Voltaire in Zürich in 1916. By the 1930s there was no longer a Surrealist movement in Paris, since various members of the group were by then pursuing different directions. However, Kandinsky encountered several individuals who had been associated with the Surrealist

fig. 56
Hans Arp
Two Heads, 1920
Collection The Museum of Modern Art,
New York. Purchase



group soon after his arrival: he saw Arp and met Miró in March and he had contact with Ernst and Man Ray in June. Kandinsky's paintings such as *Striped and Accompanied Center* (cat. nos. 29, 86) relate to both biological forms and Surrealist imagery in the work of Miró. To an even greater degree, a correspondence is visible between Kandinsky's pictures and Arp's work, where organic shapes with their sense of vitality and growth are particularly evocative. Images similar to the freestanding biomorphic forms familiar from Arp's sculptures—*Torso* of 1931 and *Human Concretion* of 1934—can be detected in Kandinsky's canvases *Composition IX* of 1936 and *Various Actions* of 1941 (cat. nos. 7, 123). Arp's relief *Two Heads* of 1929 (fig. 56) closely resembles specific rounded forms in Kandinsky's painting *Dominant Violet* (fig. 19; cat. no. 27), as well as the encyclopedia illustration depicting the stages in the development of a worm (fig. 39). The congruence of biological forms and Surrealist motifs is striking—and refers to the work of Arp. In fact, the influence of Surrealism in general and Arp and Miró in particular probably inspired Kandinsky to introduce biological images into his work in 1934.

Although the influence of Arp and Miró upon his Paris period appears undeniable, Kandinsky reacted strongly when, in 1936, Alfred Barr stated in the *Cubism and Abstract Art* catalogue that "in the last few years he has turned to more organic forms, perhaps under the influence of the younger Parisians, Miró and Arp, to whom he pointed the way twenty years before."⁵⁴ Kandinsky wrote to Galka Scheyer:

The last straw, however, is the conjecture that my Parisian painting may have been influenced by Arp or Miró. With equal justification Barr could have named Corot instead of Arp and Velázquez instead of Miró. One

54. Alfred H. Barr, Jr., *Cubism and Abstract Art*, exh. cat., New York, 1936, p. 68

48. The Galerie de Zoologie has been closed to the public for years, but M. Laissus and Mme Rufino kindly allowed me to see the displays in the galleries, which have all remained intact.

49. Karl Baedeker, *Paris and Its Environs*, Paris, 1937, p. 353.

50. *Abstammungslehre: Systematik, Paläontologie, Biogeographie*, Leipzig and Berlin, 1914, pp. 322-323, marker pp. 352-353.

51. William Rubin, *Miró in the Collection of The Museum of Modern Art*, New York, 1973, pp. 58-62, 124.

52. Charlotte Stokes, "The Scientific Methods of Max Ernst: His Use of Scientific Subjects from *La Nature*," *Art Bulletin*, vol. 62, Sept. 1980, pp. 454-465; Aaron Scharf, "Max Ernst, Etienne-Jules Marey and the Poetry of Scientific Illustration," in *One Hundred Years of Photographic History*, Van Deren Coke, ed., Albuquerque, 1975, pp. 118-126 and Werner Spies, *Max Ernst—London: The Artist in the Third Person*, New York, 1983, pp. 91-95.

53. Letter from Arp to Kandinsky dated Nov. 12, 1933, preserved in the Kandinsky Archive, Musée National d'Art Moderne, Centre Georges Pompidou, Paris.

learns from everyone—even from the weak—as one should not!'. Miro once told me he would be forever grateful for the "liberation." I often hear such things from younger artists who have no reason to flatter me. Actually these "influences" are not essential to form, which historians seldom recognize. The adoption of form is decadence. I am grateful to Barr, however, because he doesn't trace my painting from Cubism.⁵⁵

> Kandinsky's art differs from the work of the Surrealists in several essential ways: it does not delve into the unconscious and it does not concern itself with either mythology or dreams. In his pictures there is no evidence of the influence of Freud and psychoanalysis. Kandinsky never experimented with automatism and did not use accident as a creative method. His work lacks both found objects and collages. Moreover, Kandinsky did not share the Communist political orientation of many Surrealists. Although Kandinsky's correspondence reflects a quite vehement opposition to Surrealism, his published writings are more restrained. In his 1937 essay "Assimilation of Art," written for an issue of *Limien* that included work by several artists with strong Surrealist associations, he alludes only obliquely to the style. Here he reveals a relatively moderate position toward forms in nature:

Therefore, I do not become shocked when a form that resembles a "form in nature" insinuates itself secretly into my other forms. I just let it stay there and I will not erase it. Who knows, maybe all our "abstract" forms are "forms in nature," but . . . "objects of use?"
These art forms and forms in nature (without purpose) have an even clearer sound that we must absolutely listen to.⁵⁶

While Kandinsky's writings are critical of Surrealism, they say surprisingly little about biological sciences—especially embryology and zoology.⁵⁷ The few references in *Point and Line to Plane* and in his Bauhaus teaching notes have already been cited. In the latter he discusses zoology and equates unicellular organisms (protozoa) with organisms capable of polymorphic development, and thus of becoming "a sum"; and he speaks of protozoa as "original beings."⁵⁸ In August 1935 Kandinsky wrote a short text for the Danish periodical *Konkretion*, in which he referred to his earlier published writings and stated that:

this experience of the "hidden soul" in all the things, seen either by the unaided eye or through microscopes or binoculars, is what I call the "internal eye." This eye penetrates the hard shell, the external "form," goes deep into the object and lets us feel with all our senses its internal "pulse."⁵⁹

Since an explanation or documentation of the embryological and zoological forms in Kandinsky's paintings is absent from his writings, interpretations and meanings proposed for them remain hypothetical. The very fact that embryos are depicted so frequently in Kandinsky's work in 1934 and subsequent years raises questions about his personal life. Early in 1911—the artist, then

fifty-one years old, married Nina Andrejevskaja, who was very much younger than he. According to all the information known about them and according to their friends, the Kandinskys had no children. Recently, after Nina Kandinsky's death, it has emerged that they had a son called Volodia who was born in September 1911 and died in June 1920.⁶⁰ This fact remained a complete secret during Vasily's and Nina's lifetimes. Although there is no evidence that events in Kandinsky's life influenced his art, the subconscious effects of personal experiences may have emerged many years after their occurrence. When he was old and relatively isolated in Paris, Kandinsky's awareness of his childlessness may have become increasingly acute. Can we deny the relevance of the artist's personal life when his paintings reflect it?

Approached from an entirely different point of view, Kandinsky's paintings of the Paris period suggest a specific biological and philosophical concept.⁶¹ His apparently conscious effort to create biomorphic forms that simultaneously resemble embryos and marine invertebrates can be related to the "principle of recapitulation," the rule or heuristic maxim that the development of the embryo of each organism passes rapidly through phases resembling its evolutionary ancestors. Thus, it is commonly observed that the human fetus successively takes on fish-like, amphibian, reptilian and bird-like characteristics before developing distinctly mammalian features. Furthermore, the human embryo shares these stages, which occur during the first several weeks of development, with all mammal embryos. The diagram of comparative embryological development (fig. 7) was made after Darwin and supports his theory by showing that successive evolutionary specializations are superimposed on existing structures, and that the earlier stages are vestigially retained.

There are a number of hypothetical reasons why Kandinsky would have been interested in, even intrigued with, the principle of recapitulation, which was extremely popular from 1850 to 1910.⁶² While the principle that ontogeny (embryonic development) repeats phylogeny (successive evolution of major zoological groups) antedates Darwinian evolution theory by several decades, the most fruitful application of the principle was as an indirect proof of evolution itself. The person who attempted this proof was Ernst Heinrich Haeckel, who was one of Darwin's most prominent early supporters. Haeckel used the principle to make major advances in linking comparative anatomy to embryology in his area of greatest expertise, marine invertebrates. He also used the principle to postulate the "missing link," Pithecanthropus, between man and ape. In his fieldwork Haeckel focused on marine invertebrates—radiolaria, hydras and medusas—the very images prevalent in Kandinsky's Paris pictures. An accomplished draftsman, he was responsible for the illustrations as well as the text in *Kunstformen der Natur* (see fig. 20). However, he was most famous for his theoretical work in embryology.⁶³ Around the turn of the century his fame was such that Kandinsky must have been familiar with his work.⁶⁴

Second, Kandinsky would have been interested in the phylogeny/ontogeny recapitulation principle because of its resemblance to an ancient, spiritually oriented philosophical theme which inverts its order; namely, the

60. I am indebted to Karl Flinker for this information conveyed in correspondence with the author, Apr. 29, 1983.

61. I am most grateful to Peter H. Barnett for his assistance, especially on the history of science and philosophy.

62. Ernst Mayr, *The Growth of Biological Thought*, Cambridge, Mass., 1982, pp. 471-474.

63. Eric Wahl brought these interrelationships to my attention and assisted me with many research questions.

64. Haeckel (1834-1919) is referred to frequently in several volumes of *Die Kultur der Gegenwart: Allgemeine Biologie, Anthropologie und Naturphilosophie*. Two important books of his were published in 1934: Gerhard Heberer, *Ernst Haeckel und seine wissenschaftliche Bedeutung. Zum Gedächtnis der 100. Wiederkehr seines Geburtstages*, Tübingen, and Heinrich Schmidt, *Ernst Haeckel: Denkmal eines grossen Lebens*, Jena.

55. Letter from Kandinsky to Galka Scheyer dated May 29, 1916. Author's translation.

56. Lindsay and Vergo II, p. 803.

57. For example, an early reference to "grown men and embryos" in his discussion of ornamentation in *On The Spiritual in Art* does not have meaning with regard to science (Lindsay and Vergo I, p. 199).

58. *Scruti*, p. 290.

59. Lindsay and Vergo II, p. 79.

intellectual or spiritual development of humanity from prehistoric times corresponds to the intellectual and spiritual growth of each individual. Georg Wilhelm Friedrich Hegel's *Phenomenology of Mind* and *Philosophy of History* are founded on this principle and it is prevalent in the work of a variety of nineteenth-century thinkers such as Ralph Waldo Emerson and Herbert Spencer.

Finally, Kandinsky is known to have been familiar with theosophy and its literature.⁶⁵ There is evidence in the writings of H.P. Blavatsky, the founder of the movement, that she and other theosophists were both acutely aware of and ambivalent toward mid-nineteenth century developments in natural history and embryology.⁶⁶ Although Blavatsky abhorred the materialistic interpretation Haeckel and Thomas Henry Huxley gave to the recapitulation principle, she cited parallels to it in ancient cabalistic and Vedantic writings. The theosophists believed that man's spirit governed the whole evolutionary process and that humanity developed from amorphous egg-like creatures through a hermaphrodite stage before becoming sexually differentiated. Thus, the theosophists came to agree with the most advanced biologists that all life proceeds from a single original germ. However, for theosophists this germ is not protoplasm but the spirit. Rudolf Steiner lectured extensively on Haeckel and his theories of evolution in relation to theosophy in 1905-06 and his text "Haeckel, die Welträtsel und die Theosophie" was first published in *Lucifer Gnosis*, no. 31, in 1905.⁶⁷ Steiner's writings on the subject date from as early as 1899 and his vital interest in Haeckel's ideas continued throughout his life. By 1913, when Steiner organized the Anthroposophical Society, the relevant texts had been published in many editions in German and they would later be translated into Russian, French and English.⁶⁸

In terms of Kandinsky's painting, embryological imagery can be interpreted on multiple levels. First, the embryonic forms are not immediately recognizable: art historians, critics and viewers in general have been slow to identify even the part of nature from which he derived his motifs.⁶⁹ As in the paintings Kandinsky executed in Munich before World War I, the images are hidden and abstracted from reality. When natural forms are shown under great magnification or excerpted from their contexts, their identities are disguised. However, a leaf is still a leaf even though it no longer looks like one. Second, an embryo is not recognizable as an adult member of its species yet it contains implicitly everything that it will become. The genetic makeup of each embryo will determine its psychological as well as physical being. Moreover, the embryo is a generalized image. At an early stage it is neither ostensibly human nor individual: it is already an abstraction.

In a note to *Point and Line to Plane*, Kandinsky explicitly connects embryonic and evolutionary development to abstract art.

Abstract art, despite its emancipation, is subject here also to "natural laws," and is obliged to proceed in the same way that nature did previously, when it started in a modest way with protoplasm and cells, progressing very gradually to increasingly complex organisms. Today, abstract art creates also primary or more or less primary art-organisms,

whose further development the artist today can predict only in uncertain outline, and which excite him, but also calm him when he stares into the prospect of the future that faces him. Let me observe here that those who doubt the nature of abstract art are, to choose an example, as if reckoning with the stage of development reached by amphibians, which are far removed from fully developed vertebrates and represent not the final result of creation, but rather the "beginning."⁷⁰

Kandinsky's images of amoebas, embryos and marine invertebrates convey a spiritual meaning of beginning, regeneration and a common origin of all life. Because of his spiritual beliefs and his ideas on abstract art, Kandinsky would have responded to the meanings of rebirth and renewal inherent in the new imagery of his Paris pictures.

65. See Rose-Carol Washton Long, *Kandinsky: The Development of an Abstract Style*, Oxford, 1980, ch. 2. Sixten Ringbom, *The Sounding Cosmos: A Study in the Spiritualism of Kandinsky and the Genesis of Abstract Painting*, Åbo, 1970, and Sixten Ringbom, "Kandinsky und das Okkulte" in *Kandinsky und München*, exh. cat., Munich, 1982, pp. 85-101.

66. I would like to thank Cynthia Goodman for her insights and Nancy Spector for her assistance with research on this subject.

67. This issue of *Lucifer Gnosis* is not preserved in either the Gabriele Münter- und Johannes Eichner-Stiftung, Städtische Galerie im Lenbachhaus in Munich or in the Kandinsky Archive, Musée National d'Art Moderne, Paris. The latter possesses only one copy of *Lucifer Gnosis* (no. 14 from July 1904). However, Kandinsky's knowledge of several texts in *Lucifer Gnosis* (nos. 8, 10-11, 18-19, 30-34) has been proven by Sixten Ringbom ("Die Steiner Annotationen Kandinskys" in *Kandinsky und München*, exh. cat., Munich, 1982, pp. 102-105).

68. In the Archiv und Bibliothek of the Goetheanum in Dornach, Switzerland, the author consulted "Haeckel und seine Gegner," "Ernst Haeckel und die Welträtsel," "Die Kämpfe um Haeckels 'Welträtsel,'" "Die Kultur der Gegenwart im Spiegel der Theosophie" and "Haeckel, die Welträtsel und die Theosophie." The best published source is Johannes Hemleben, *Rudolf Steiner und Ernst Haeckel*, Stuttgart, 1965.

69. For general references in art-historical literature, see Rose-Carol Washton, *Kandinsky: Parisian Period 1914-1944*, exh. cat., New York, 1969, pp. 16-17 and "Vasily Kandinsky: A Space Odyssey," *Art News*, vol. LXVIII, Oct. 1969, p. 49 as well as Hans Konrad Roethel, *Kandinsky*, New York, 1979, p. 42.

70. Lindsay and Vergo II, p. 628.