# JOSEF ALBERS
# MINIMAL MEANS, MAXIMUM EFFECT

2014



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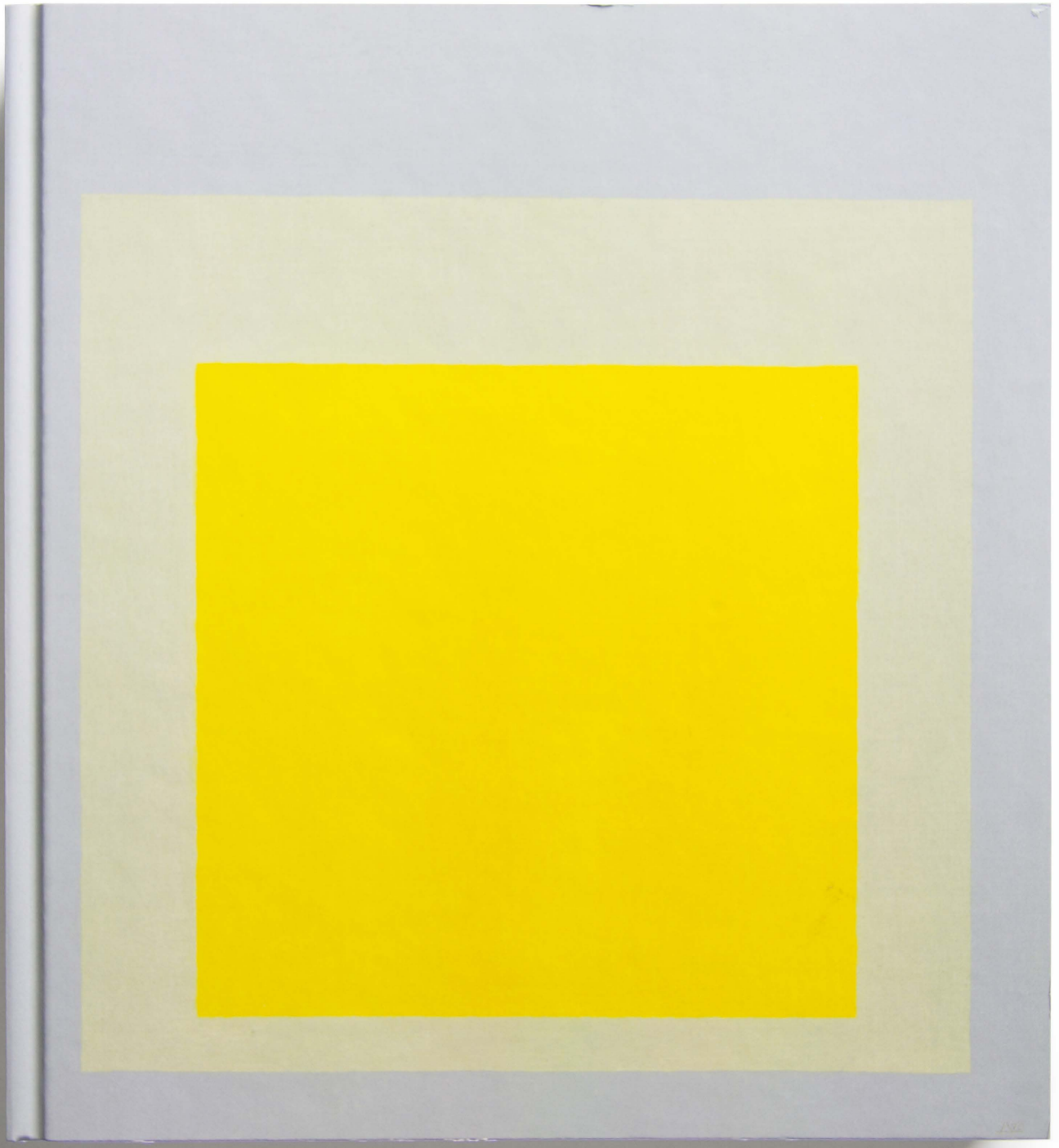

*To distribute material possessions*
*is to divide them*
*to distribute spiritual possessions*
*is to multiply them*

Josef Albers

# Josef Albers

## minimal means, maximum effect

March 28 – July 6, 2014

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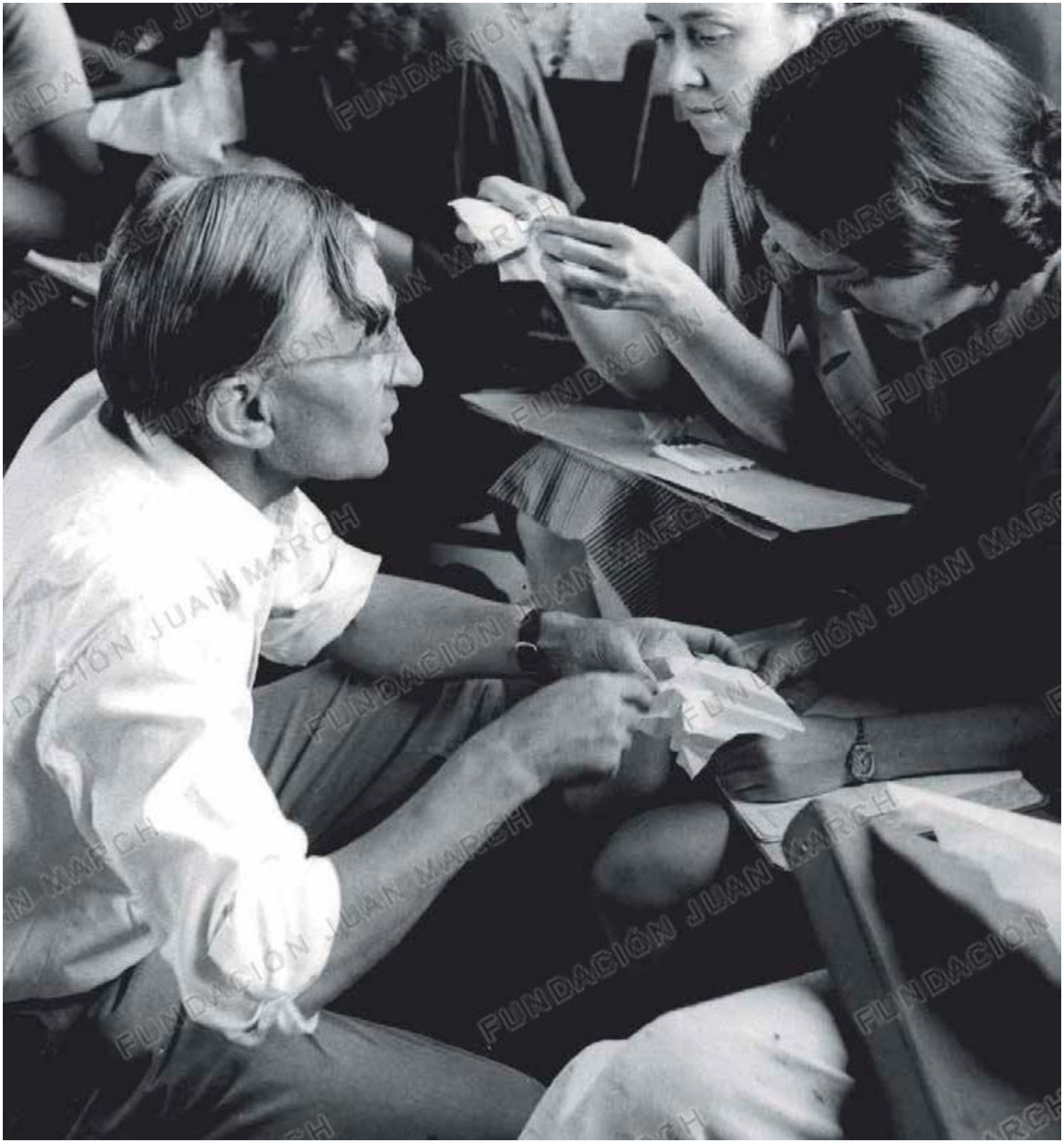
Madrid, 2014



Josef Albers teaching at Black Mountain College (detail), 1944. Photo: Josef Breitenbach

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# Contents

# Josef Albers: Art as Economy of Form

## Foreword

*Josef Albers: Minimal Means, Maximum Effect* is the first retrospective in Spain devoted to Josef Albers (1888–1976). Comprising more than one hundred works of art in addition to furniture, objects, photographs, and a range of documentary material, the exhibition has been devised and developed over the last years in close collaboration with the Josef and Anni Albers Foundation (Bethany, Connecticut).

Notwithstanding its retrospective character, the exhibition is not structured as a simple chronological survey of the artist's work, although this would in itself be enormously enriching and instructive. Rather, it presents the work of Josef Albers as a project equally characterized by its coherence and its search for simplicity, its productive use of deliberately limited means and resources, its respect for manual labor and its emphasis on experimentation with color, taking material shape in a body of work with a marked poetic and spiritual content. Albers' output is decidedly the result of a judicious administration of artistic resources. In its totality his oeuvre is the consequence of a true "economy of form."

With the exception of his earliest creations, which deploy an Expressionist idiom typical of early 20th-century Germany, the work of Josef Albers was completely governed by an economy of means that constitutes the guiding thread of his artistic practice. One of the artist's first texts, published in 1928 with the title "Werklicher Formunterricht," opens with the following words: "Ours is an economically oriented age," and goes on: "In earlier times, world-view was more important" (see p. 211 in this catalogue). Nonetheless, the idea of economics as employed by Albers is not that of the exchange of goods, in other words it is not the limited market economy. The term has a more profound, universal meaning: it is the economics of the exchanges between human beings and between them and the objects of the world.

From this broader viewpoint, the exhibition and its accompanying catalogue also explore Albers' working process and his reflection about teaching, his theoretical and practical activities, given that in this area too he was a remarkable figure: a student and later a professor at the Bauhaus in Weimar and Dessau, and a teacher at Black Mountain College and finally at Yale University, in a way comparable to few other artists Albers' life was closely linked to the two most advanced experiments in art teaching in the 20th century. The exhibition aims to emulate his pronounced pedagogical vocation and thus includes teaching material and exercises by his students at the Bauhaus and at Yale, most notably those pertaining to his final years at Yale, in the form of the student works that Albers would use to structure his celebrated text *Interaction of Color*.

* * *

With regard to his activities as a writer on art and educational theory and as a teacher and poet, the present catalogue includes an extensive documentary section with 57 texts by Albers, 26 of them previously unpublished. In addition, it brings together 14 accounts of him by colleagues, students, art historians, essayists and writers, 4 of which are published here in English for the first time. The texts by Albers himself reveal how the uniquely economical approach that determined his artistic creation also prevailed in his theoretical reflections and in his ideas on teaching and the practice of art and design. The reader will appreciate that in the texts written by Albers between 1924 and 1966 the same, or very similar, ideas and deep-rooted convictions constantly reappear, tried and tested against his vision of the world and his experience of life. This is not, however, mere repetition or recycling, but rather an authentic "economy of distribution." In his texts, Albers made intelligent use of his ideas, "investing" them in fields as different as artistic creation, historical and contemporary consciousness, typography, art teaching, abstract art, color, design, architecture and the meaning of existence. Even the most dispassionate reading of these texts (see pp. 207 to 317 in this catalogue) will reveal that the investment Albers made in reflecting on the most theoretical and the most practical issues throughout the course of his life was not only paid back in full but continues to offer intellectual dividends to this day.

* * *

Nonetheless, this profit is no more than a pale reflection of the one yielded by Albers' works. In them, the "distributive" economy evident in his texts becomes rather an economy based on an exponential multiplication of esthetic value. It is perhaps here that Albers can be considered a paradigmatic figure within modern and contemporary art, given that, in a way, all modern art from the early decades of the 20th century (or even from Impressionism) onwards can be explained as a process of economy of form, or better said, of the "economization" of forms.

If the prevailing trend in modern art has been abstraction, then its most important resource has been subtraction, destruction or limitation. Abstraction, the principal basis for 20th-century art – and much more powerful and widespread than the sporadic realist movements – is nothing other than an economic device to contain and reduce the "expenses" inherited by art from its long tradition: the schools, the imitative, the manual, the pictorial, the figurative, the expressive, the historical, the narrative, the literary, the significant, the mimetic, the authorial, the representational, the material, the sight-based and even, from Duchamp onwards, the "artistic." The economy made explicit by Albers is symptomatic of a state that affects all modern artists alike, only in the case of Albers it is the conscious driving force behind his work. It is what we might term the hidden economic law of contemporary art, the origins of which lie in modern esthetic consciousness, subsequently refined by the corrective imposed on modern art by certain 20th-century Esthetics and Poetics including, for example, that of the Bauhaus.

* * *

The traditional definition of economics as an activity consisting of "the administration of limited resources with potentially different uses" could certainly be applied almost fully to Josef Albers' artistic activity, were it not for the fact that the resources of which he and all artists make use are not at all limited. It is precisely because the resources of art are potentially limitless that the possibility of alternative uses is similarly so. Thus all artists are obliged to continually engage in the essential act

of any economy: that of choosing between what is valuable and what is not. This comes about through the choices and decisions of that productive economy, which moves between a potential abundance of possibilities and an actual, unavoidable limitation imposed on their realization by the very materiality (and "originality") of the works of art. This is the economics of the art supply, in which each artist gambles with the significance and visibility of his work in a second economy that is complementary to that of the production of art: that of demand, which is exercised by the desire for the esthetic consumption of works of art. The latter also has different rules to those of the market economy, given that in contrast to mere consumer goods, certain notably material goods (works of art) are not used up nor depleted, but rather "consumed" through the most elevated form of consumption: contemplation.

According to Albers, art thus brings about the miracle of distributing material possessions without reducing them but in fact multiplying them. Art, like the Gospel episode, would thus bring about the multiplication of the loaves and fishes (here standing for material possessions). The only difference is that the starting point is not a few loaves and fishes that multiply in order to feed a crowd, but rather the opposite: thousands of possible forms of loaves and fishes which each artist rigorously reduces to just a few, but which almost miraculously end up feeding many. A famed coiner of aphorisms and perceptive phrases, Albers often repeated that among his aims in art and in life was that of achieving the "maximum effect" through "minimal means." Deeply interested in mastering crafts and manual skills from his childhood, for him art was a perfectly balanced equation between effort and effect. In a reflexive manner he applied this austere sense of artistic practice to his theoretical essays, educational texts, teaching, design of furniture and objects, typography, photography and of course, painting.

The present exhibition has also been guided by that approach. The rigorous but concise selection of works reflects both the homogeneous evolution and continuity of Albers' convictions, vision and art, from his early years as a schoolteacher in his native Westphalia to his final years at Yale. In addition to his early figurative drawings, in which the effectiveness of the "economical" lines is already notable, the show includes works in stained glass or *Glasmalerei* (glass paintings, as Albers termed them), furniture and objects designed during the Bauhaus period, as well as graphic work and paintings from the artist's years in North America, first at Black Mountain College then at Yale. The selection of paintings is particularly important and encompasses the main series on which Albers worked: *Variant/ Adobe*, *Structural Constellations*, and the celebrated *Homage to the Square*. The latter was created in the United States during the last decades of Albers' life and reveals the pared-down syntax of an artist dedicated to experimenting with the interaction of the innumerable gradations of the color spectrum.

* * *

As with any project that aspires to the highest level of excellence, this one would not have been made possible without the support and help of numerous individuals and institutions, to whom Fundación Juan March expresses its most sincere gratitude in the lengthy acknowledgements section of this catalogue. Limiting ourselves to the *minimal* sense of justice, particular thanks go to Nicholas Fox Weber, Brenda Danilowitz, Jeannette Redensek and Samuel McCune for their *maximum* contribution to promoting knowledge of the work of Josef Albers, an endeavor that has so closely united our two institutions over the last years.

Fundación Juan March
Madrid, March 2014

*In the green morning*
*I wanted to be a heart.*
*A heart.*

*And in the ripe evening*
*I wanted to be a nightingale.*
*A nightingale.*

*(Soul,*
*turn orange-colored.*
*Soul,*
*turn the color of love.)*

*In the vivid morning*
*I wanted to be myself.*
*A heart.*

*And at the evening's end*
*I wanted to be my voice.*
*A nightingale.*

*Soul,*
*turn orange-colored.*
*Soul,*
*turn the color of love.*

— Federico García Lorca, "Ditty of First Desire"[1]

# Josef Albers: Minimal Means, Maximum Effect

Nicholas Fox Weber

Forgive the presumption. An American writer, discussing a German-American artist, dares to quote García Lorca to a Spanish audience. The value of the citation justifies the audacity, though. Josef Albers often referred to "minimal means, maximum effect." For Albers, this translated into the use of as few straight lines as possible to create rich spatial events, the skillful manipulation of an engineer's tools to invoke mysterious forms that appear and disappear before our eyes, the most refined arrangement of flat squares of unmodulated color to give birth to an alchemical process whereby illusory shading, color penetration, after-image, and a spectral glow all occur. This particular poem of Federico García Lorca's exemplifies, in writing, the spectacular use of the fewest number of elements, of pared-down and succinct language, of impeccable judgment and craft to conjure a universe of beauty and make miracles from simple seeds.

Picture this scene, please, and forgive the personal reference. It is 1961. John F. Kennedy is the president of the United States. Four hundred and fifty American adolescent schoolboys, obligated to wear jackets and ties, adhering to a rigid schedule of academics and sports for at least fourteen hours each day, are leading our lives, with the usual teenage emotional tumult, in a quadrangle of neo-colonial brick buildings. The New England climate is dramatic; autumn splendor and early frosts lead to blankets of heavy snow and then to springtime flooding in the river valley below the campus, which becomes an island every April. Martin Luther King is transforming our world, but so, alas, will Lee Harvey Oswald. We read, in his – your – language, Federico García Lorca. And he speaks to us, word for word, perfectly. So, too, does Josef Albers' way of seeing speak to you, over half a century later, in Spain. The artist who worked so diligently and with such poetry in his simple suburban house in Connecticut, crafting paintings on simple plywood planks resting on sawhorses, wearing his comfortable cotton shirts from the Maine mail-order shop L.L. Bean, is, like the poet from Granada, a source of unbridled passion who found the eloquence, the technique, the simplicity, to communicate a sense of richness to all people, in all eras.

"Only mystery makes us live, only mystery."[2] These, too, are García Lorca's words. And they, too, are the essence of Albers' approach. Mysteries never ceased to thrill him. In this exhibition,

1
Federico García Lorca, "Ditty of First Desire," in *Federico García Lorca, Selected Verse: Revised Bilingual Edition*, ed. Christopher Maurer, trans. Catherina Brown, Cola Franzen, Galway Kinnell et al. (New York: Farrar, Straus and Giroux, 2004), 193–95.

2
Federico García Lorca as cited in *Only Mystery: Federico García Lorca's Poetry in Word and Image*, ed. Sandra H. Forman and Allen Josephs, trans. Allen Josephs (Gainesville, FL: University Press of Florida, 1992), 8, 69.

his first solo retrospective show in Spain, organized with passionate commitment by Manuel Fontán, steered by the ever thoughtful María Toledo, housed graciously and splendidly here at the Fundación Juan March, those mysteries are visible in a range of Josef's art. In the early figurative drawings, flat paper is made to appear rounded, and only two or three lines put before one's eyes the entire human presence of a dancer light on her feet. Morsels of glass chopped up by a penniless artist in the junkyard near the Weimar Bauhaus assume the religious force of windows at Chartres as light penetrates and color explodes joyously. In paintings of the artist's *Variant* series, the viewer feels he is looking at far more of one color than another, and at layers of paint overlapping one another, only to learn that in reality there are equal quantities of each hue, and each pigment has been applied straight from the tube on to the white background, with nothing actually on top of anything else. In the late *Structural Constellations*, impossible forms come to life. There is no reality in the way that boxes open first from one side than another, and that parallelograms become like this planes of sheet metal that twist and flip-flop as we look at them. And in a glorious selection of the *Homages to the Square*, isolated colors seem to penetrate others, flat expanses of paint acquire illusory shadows, straightforward areas of pigment – "I paint the way I spread butter on bread," Josef told me – on the same picture plane give the appearance that one is in front, one behind. Those squares were invariably realized starting at the center. "I come from Adam and my father, that is all," Josef would say when asked about artistic influences. And, he proudly revealed to me, "My father, an honest and competent craftsman, a carpenter and house painter and electrician and plumber, said that when you paint a door you start at the center and work out, because that way you catch the drips and don't get your cuffs dirty. That is how I paint the *Homages*." What better examples of "minimal means, maximum effect," and of the effect being those deeply moving mysteries that García Lorca relished as well, however different their worlds.

Even if the results of Albers' straight lines and flat colors are factually illogical, the components that engender them are made in utterly succinct language. Indeed, like the words of a tongue that summons so much that is richly incomprehensible, like the paintings of Zurbarán and El Greco, the appearance of minimal means results in maximum effects.

Josef had a favorite quotation from Plato typeset and printed so that he could use it for teaching purposes:

> By beauty of shapes I do not mean, as most people would suppose, the beauty of living figures or of pictures, but, to make my point clear, I mean straight lines and circles, and shapes, plane or solid, made from them ... These are not, like other things, beautiful relatively, but always and absolutely.[3]

The utter simplicity of the idea, and the leanness of its expression! How rich the echoes of those pared down, refined sentences. How vast the ramifications of a clear eye and the will to trim, to sharpen, to embolden rather than dilute one's expression.

* * *

3
Plato, *Philebus* 51c, as cited in Alfred Hamilton Barr's "Foreword" to *Machine Art* (New York: Museum of Modern Art, 1934), 9–12.

I recently received, from the daughter of the Australian architect Harry Seidler, a statement her father, who died a few years ago, made about what he learned from Albers at Black Mountain College in North Carolina. This was the experimental educational institution where Josef made art the focal point of education from the time the Nazis forced the closing of the Bauhaus in 1933 until 1949, and where students and visitors included painter and graphic artist Robert Rauschenberg, dancer and choreographer Merce Cunningham, poet Robert Creeley, film and theater director and producer Arthur Penn, composer and artist John Cage, architect and inventor Buckminster Fuller, and others. I was lucky enough to be present when Harry and his wife Penelope visited Josef and Anni Albers in 1974, and the rapport was magical and memorable. Albers was proud of his former student who had built some of the finest private houses and most impressive skyscrapers in Australia, and, even now, when Josef was in his mid-eighties, they were collaborating on a new project. One of Albers' utterly refined linear constructions was to appear on the outside of a large bank building in Sydney, and a new *Homage to the Square* would become, once Josef found precisely the colors he wanted, the basis of a large tapestry in the bank's lobby. Penelope Seidler, tall and cheerful and chic and worldly, had a spirit both of the Alberses relished; Anni Albers, brilliant and elegant and, as usual, intensely droll, radiating her particular force, added luster to the occasion. Josef and Harry were, as ever, discussing art, and how much could be achieved with so little, how if one set aside self-expression and concentrated on vision and seeing, miracles could occur. What Polly Seidler sent me sheds light in a new way on the nature of Josef's vision and its impact, the importance of focus to achieve minimal means whereby to attain maximum effect:

> Albers taught us that there are discernible characteristics in visual phenomena that make certain compositions superior to others. He taught us also how to analyze design, to understand what vision taught us. For instance, pyramid structures are heavy at the bottom. That was the aesthetic of 5,000 years ago because that's what those builders were capable of engineering. They couldn't hold up something that had a center of gravity high up in the air. The form makes you aware of that because it is logical. Then, conversely, today the eye might be more stimulated by something that doesn't sit flat-footedly on the ground. Albers made you understand these things by experimentation and analysis. He would put examples on the board and ask us to analyze them. He made you go through a careful and systematic analysis of what the eye perceived. That was the most valuable training that I ever had because this is something that is very difficult to teach. Albers used to teach all of this in the preliminary course at the Bauhaus. Whether they were to become architects or painters or sculptors or industrial designers, all the students had to take this course in fundamental design. We were lucky enough to have this education in America. To this day I still have what I learnt there in my system.[4]

This was the essence of what was conveyed by Albers' teaching, as it is by the art in this exhibition in Spain. Through experimentation, through the use of the correct materials and technique, through acuity, comes beauty. In 1964, when he was seventy-six years old, Josef gave three lectures at Trinity College in Hartford, Connecticut, where he told his students:

> Art problems are problems of human relationship. Note that balance, proportion, harmony, coordination are tasks of our daily life, as are also activity, intensity, economy, and unity. And learn that behavior results in form – and, reciprocally, form influences behavior.[5]

4
Statement by Harry Seidler, e-mailed to the author by his daughter Polly Seidler in October 2013.

5
Josef Albers, "General Education and Art Education: Possessive or Productive," in *Search Versus Re-Search: Three Lectures by Josef Albers at Trinity College, April 1965* (Hartford, CT: Trinity College Press, 1969), 9–15. For a full reproduction of this lecture, see p. 290.

Picture Josef's art in this exhibition please, as you consider those words. All the qualities he cites – from balance through unity – exist in his work. They also pertain to the conduct of his own life. His discipline and strength and fiery passion harnessed by resilience and order infuse the *Homages*, and radiate from the saturated yellows and the ephemeral grays. And, yes, form – art – influences behavior. The verdant greens neatly contained in the *Variant* paintings, the logic of the lines of the *Structural Constellations*, make us feel crisp, acquire energy, and use our new force for the better.

Again, the combination of impeccably chosen words, the feeling for color, the utter lust for wonder coupled with a perfect use of one's craft – and, moreover, the capacity of art to change our own behavior by awakening us, by infusing us with energy – are the hallmarks of García Lorca:

*The river Guadalquivir*
*Flows between oranges and olives*
*The two rivers of Granada*
*Descend from the snow to the wheat*

*Oh my love!*
*Who went and never returned*

*The river Guadalquivir*
*Has beards of maroon*
*The two rivers of Granada*
*One a cry the other blood*

*Oh my love!*
*Who vanished into thin air*.[6]

Albers called a painting *Into Thin Air*. The world as an amalgam of what is still and what moves, of what is solid and what is weightless and invisible, as a place where color affects emotions: these two great visionaries, your masterful poet and our diligent painter, saw all of this and took it to new heights. Refined technique and the greatest ardor functioned in perfect tandem for both.

* * *

In 1940, in a time period when Josef and Anni had just assured the rescue of Anni's family, who were Jewish, from their homeland where they would have been killed, and when the United States, his new haven, was facing the possibility of an engulfing war, Josef gave a speech at Black Mountain College where he referred to none of those events, but only to the lasting values of art. As was often the case, he voiced, in particular, his belief in the need for the appearance of minimal effort in order to achieve multitudinous effects – while making it clear that the appearance of minimal effort was a conceit. Again, picture the art in this exhibition, the way that it is, deceptively, simple in execution as well as appearance, but, in reality, the embodiment of diligence and hard work resulting in infinite richness, always yielding new excitement and pleasure. Josef concluded that lecture:

6
Federico García Lorca, "Ballad of Three Rivers," for this translation see www.goodreads.com/quotes/197662-the-river-guadalquivir-flows-between-oranges-and-olives-the-two.

> Through works of art we are permanently reminded to be balanced, within ourselves and with others; to have respect for proportion, that is, to keep relationship. It teaches us to be disciplined, and selective between quantity and quality. Art teaches the educational world that it is to be too poor to collect only knowledge; furthermore, that economy is not a matter of statistics, but of sufficient proportion between effort and effect.[7]

As I read him being so refined and controlled, I can hear the vehemence with which he would intone those words! Or, even if he murmured them, and sometimes he decreased his tempo and lowered his voice and spoke in a slow whisper, the sense of total passion that would soar through. Josef was ever awake to it all: the miracle of birth, the thrills of life, the reality of death. He lived it all to the fullest, and he made art that, for all the visual refinement, abounds in its feeling of *everythingness*, of all there is to appreciate and explore in our short time here. Here at the Fundación Juan March, those miracles are evident in the work the artist made from his earliest drawings when he taught in a one-room school in rural Germany to his latest flowering as a painter in the period when he was the first American artist to have a solo exhibition at the Metropolitan Museum of Art in New York and when his presentation of color was bringing pleasure and enabling vision and perception to grow all over the world.

The alertness, the courage, the abandon alongside the meticulousness are yours to relish.

> The artist, and particularly the poet, is always an anarchist in the best sense of the word. He must heed only the call that arises within him from three strong voices: the voice of death, with all its foreboding, the voice of love, and the voice of art.[8]
>
> — Federico García Lorca

7
Josef Albers, "The Meaning of Art," lecture given at Black Mountain College, North Carolina, on May 6, 1940. For a full reproduction of this lecture, see p. 247.

8
Federico García Lorca in an interview with Francisco Pérez Herrero published in *La Mañana* (León), August 12, 1933. For this translation, see www.goodreads.com/quotes/113537-the-artist-and-particularly-the-poet-is-always-an-anarchist.

# On Josef Albers' Painting Materials and Techniques

Jeannette Redensek

We have become so accustomed to thinking that the world is smooth. The effortless reproducibility of artworks in the present day – as glossy illustrations in books and magazines, as projected images, and as evenly glowing presences on computer screens – has created a sense that the reproduction is equivalent to the work itself, and that paintings should be as slick and uniformly textured as a picture in a book.

This is especially true for the paintings of Josef Albers. The planar nature of his art – interlocking polygons, concatenated forms, nested squares – lends itself to a misunderstanding of the surface character of the actual works. That art historians and critics have aligned Albers with tendencies such as Op Art and Minimalism – movements in which the impersonality of facture was often considered an esthetic virtue – accentuates the misreading.

Before one lays eyes on a genuine *Homage to the Square* painting by Josef Albers, it is quite possible that one has already come across his signature composition in a hundred iterations: as illustrations, prints, postcards, posters, postage stamps, note cards, refrigerator magnets, mouse pads, sofa pillows, area rugs, and tote bags.

It is a revelation, then, to see one of Albers' *Homage to the Square* paintings in person for the first time. The surfaces of Albers' works are velvety and animated. The visible, even strokes of the palette knife, and the variations in the densities of the pigments from color to color, from square to square, combine to create a shimmering transparency of color. What might have appeared as a coolly intellectual, geometrical proposition in reproduction is revealed as a luminous, painterly incandescence in real life.

Josef Albers could have made his paintings many ways. If they were just color experiments, if they were just mathematical or psychological postulates, he could have made them faster, and he could have made them easier. He could have painted them with a brush or roller, he could have thinned the paint to make it simpler to spread, he could have used tape or a straightedge as mask to maintain sharp, clean edges between the colors.

Instead Albers used the careful and laborious technique of the palette knife [fig. 1]. He sat with the prepared panel laid flat on a table in his studio, patiently spreading the paint across the surface, leaving behind the visible trace of the knife's edge and its manipulation by the artist's hand.

Albers' choice of materials and techniques says a lot about what he thought a painting was, what he thought a painting should be, and what he thought a painting should do in the world.

A painting was above all a well-crafted object, bearing on its surface the evidence of the hand of the maker. Throughout his life, Albers made much of the fact that he was descended from craftsmen, and that his father had been a humble sign-painter.[1] To some degree, this self-representation of the artist-as-a-simple-maker was a way to distance himself from the prevailing notion of modern artists as theory-driven intellectuals, the type of people Albers derided in public lectures as "the professors."

Through the craft of their making, Albers' paintings make a deep appeal to the viewer's senses, not just to visual perception, but also to haptic perception – that sensory awareness by which touch is coupled to sight. In an essay from 1972 Margit Rowell described Albers' pictures as "receptacles for perception."[2] They might better be cast as instruments or passages for perception. The address made to the viewer by their composition and their surface facture is such as to say quite firmly that the works know that they occupy the same space as the onlooker. They are subject to the same physical forces of light, atmosphere, and gravity. As Albers' put it in a characteristically deceptively offhand and yet deeply philosophical statement: "The painting is looking at you."

Albers' conjoining of the integrity of craftsmanship and the experimental ethos is an assertion of painting as a communicative act. The paintings are not lessons. The paintings do not directly *instruct* the viewer. Rather, in true progressive-education fashion, the paintings create situations in which the observer becomes aware of his or her own perceptions. It is a profoundly generous and democratic conception of art. Albers' choices of materials and his techniques of making pictures are as much a part of the communicative constellation as are the compositions.

## The archival sources

Josef Albers left a unique legacy for researchers of artist materials and techniques. From quite early in his career as a painter, he kept careful records of the grounds, paints, and varnishes he used to make each work. He inscribed this information on the backs of the paintings, and in most instances he also recorded the materials in his studio notebooks, alongside titles, dates, and dimensions. The studio notebooks are today held in the artist's archive.

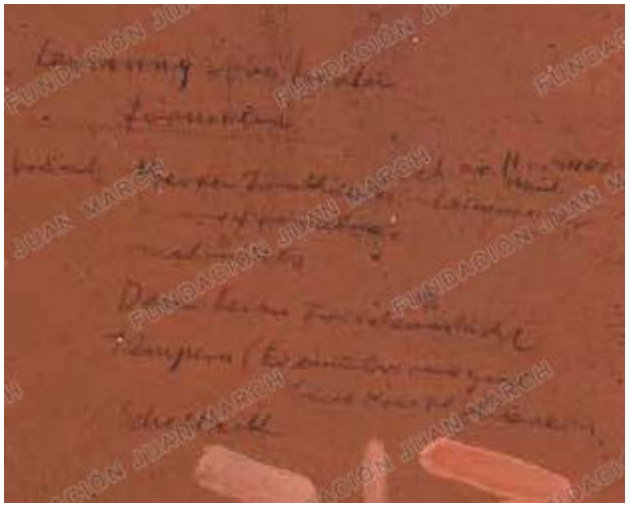
In the early pictures, from the mid-1930s, when he first began painting in earnest after his immigration to the United States, the inscriptions on the reverse of the works appear to be reminders meant for him alone. For instance, the notes on the reverse of the painting *Meeting B* (1934), a work completed in Albers' first year at Black Mountain, North Carolina, are penned in German and are almost stenographic in their brevity [fig. 2, 3]. As he experimented with layering grounds and pigments, some applied days and even weeks apart, it seems he wrote the notes to remind himself of the ingredients and processes underway.

1
Nicholas Fox Weber, "The Artist as Alchemist," in *Josef Albers: A Retrospective* (New York: Solomon R. Guggenheim Museum, 1988), 15.

2
Margit Rowell, "On Albers' Color," *Artforum* 10 (January 1972), 28.

← **fig. 1**
Josef Albers' palette knives, from a collection of the artist's studio materials now at The Josef and Anni Albers Foundation. Photo: Tim Nighswander

↓ **fig. 2**
Josef Albers, *Meeting B*, 1934. Oil on wood composition board, 18 x 19 ¼ in (45.7 x 48.8 cm). The Josef and Anni Albers Foundation (2005.1.1)



↑ **fig. 3**
Detail of Josef Albers' notes on the multi-layered ground used to prepare the wood composition board for *Meeting B*, 1934

But by 1940, Albers' notes on colors and grounds assumed a life of their own: they became a hallmark of his work, as much a token of his paintings' authorship as his signature and incised monogram. Inscribed in pen and pencil, the notes became more detailed, and more regularly formatted with characteristic indents and underlining. For a work such as *Layered* (1940), the notes record in painstaking detail the ground, names of paints and their manufacturers, mixtures of pigments, and tinting of the wide painted border around the central composition [fig. 4]. In the series of paintings known as *Variant/Adobe*, begun in 1947 and produced intermittently through the 1950s, Albers recorded grounds, pigments, and varnishes, as well as the surface areas covered by each color, as he did for the painting *Luminous Day* (1947–1952) [fig. 5].

For Albers in his studio, as for scholars researching his work today, the inscriptions on the reverse of his paintings provide a map for tracking his explorations of color across hundreds of artworks. The meticulous notes on the *Homages*, painted between 1950 and 1976, are particularly important for understanding the artist's developing preferences for certain colors, specific brands of paint, as well as his choices of grounds, varnishes, and occasional additives such as drying oils or thickeners.

The color inscriptions on the reverse of the paintings are so detailed and so complete that they comprised something of a confessional space for the artist. There is a popular misconception that "Albers never mixed his paints" – that he always used them directly from the tube, or that he only mixed a few colors (pinks, light blues), and only in his early years as a painter. In fact, we know that Albers mixed colors in about fifteen percent of his paintings, primarily in the early years, but also although rarely well into the 1960s when he wanted a particular orange-yellow or a specific mid-toned gray. We know this because Albers tells us as much. In his color notes Albers conscientiously documented when he mixed pigments and when he over-painted an area, as these acts could be considered transgressions against his usual dedication to using paints unmixed, in a single coat, and directly from the tube.

In addition to inscriptions on the artworks themselves, there is a variety of other archival and bibliographic information which documents Albers' materials and techniques. The archive of the

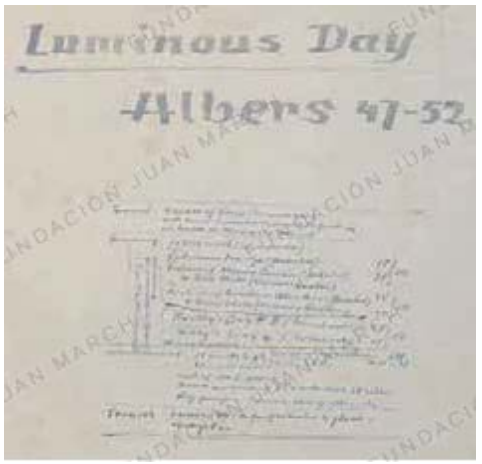



**fig. 4**
Detail of notes on the ground, pigments, varnish, and apportionment of painted surface area, written by Josef Albers on the reverse of the painting *Luminous Day*, 1947–1952

**fig. 5**
Detail of notes on the ground, pigments, and varnish written by Josef Albers on the reverse of the painting *Layered*, 1940

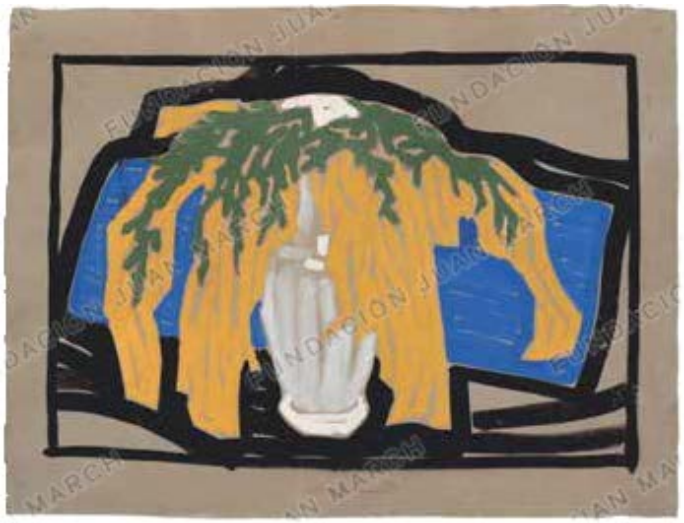


**fig. 6**
Josef Albers, *Still Life with White Vase*, n.d. Gouache on paper, 16 3/8 x 21 1/2 in (41.5 x 54.6 cm). The Josef and Anni Albers Foundation (1976.2.349)

artist's papers holds his correspondence and studio notebooks, in which Albers recorded the same notes made on the back of his paintings. This archive also houses his copies of painting manuals by Kurt Wehlte (1897–1973) and Max Doerner (1870–1939) – the latter his foundation course teacher at the Akademie der Bildenden Künste in Munich from 1919 to 1920 – replete with the artist's marginalia. The conservator Charles Tauss (1927–2000), who treated and varnished Albers' paintings from 1953 to 1972, left notes of his conversations with the artist about materials and techniques, and these papers are now in the Albers archive. Among the invaluable resources for investigating Albers' work are the thousands of drawings and color studies, and the shelves of paints, palette knives, brushes, and other tools remaining in the artist's studio at the time of his death.

## The paintings

### Supports

Because Josef Albers is so well known today as a painter, it is easy to forget that he did not take up painting in earnest until 1934, after his immigration to the United States and his settlement in Black Mountain, North Carolina. He was at that time forty-six years old. At the Bauhaus and before, Albers made prints, glassworks, housewares, photographs, and furniture. To be sure, he had painted as a young man and had studied painting in Berlin from 1913 to 1915, in Essen from 1916 to 1919, and in Munich from 1919 to 1920. The few surviving paintings from that period, mostly gouaches and watercolors on paper, reveal a young artist under the spell of Cézanne and Matisse (as Albers himself often acknowledged), working within an esthetic seemingly suspended between the camps of Symbolism and Expressionism [fig. 6]. It is remarkable nonetheless how many of the compositional factors that

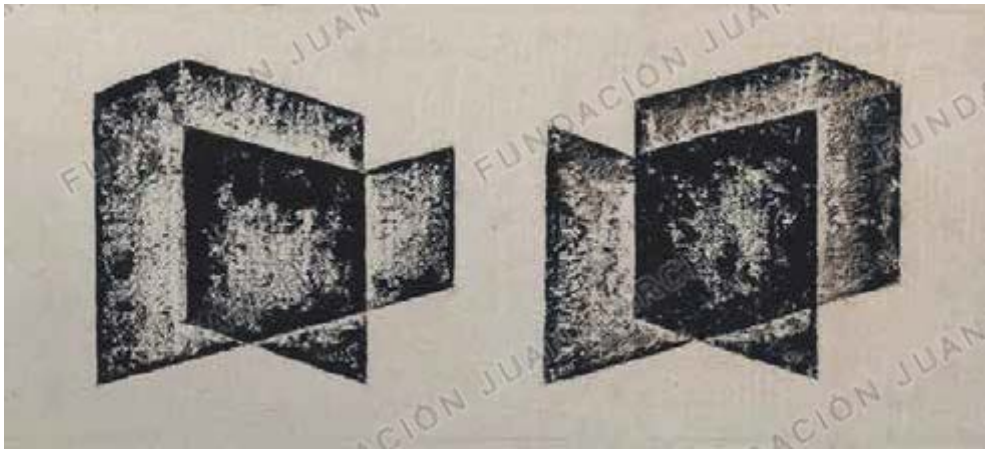


fig. 7, 8
Josef Albers, *b and p*, 1937 [cat. 19]
Detail of front surface of *b and p*, 1937. Albers left portions of the wood composition board unpainted, using the natural brown of the wood as a color in the composition. Photo: Josef Albers

fig. 9, 10
Josef Albers, *Together*, 1939 [cat. 26]
Detail of front surface of *Together*, 1939. To create the brown outline of the looping forms, Albers carved into the wood composition board. Photo: Josef Albers

fig. 11, 12
Josef Albers, *Study for Equal and Unequal*, 1939 [cat. 27]
Detail of front of *Study for Equal and Unequal*, 1939. By scraping the paint down to the rough, textured surface of the pressed wooden board, Albers used the principle of the optical mixture to create a gradient of intermediate grays between black and white

would occupy Albers in his later, mature career are present in these nascent efforts: the compression of pictorial space into shallow relief, the focus on figure-ground relationships, the demarcation of the painted surface into margins, background plane, and central forms.

When Albers did begin painting at Black Mountain, he chose to do so on compressed wood fiberboard panels. The umbrella term used for these panels – Masonite – is a trademark of one particular manufacturer. The process for producing Masonite boards was invented in 1924. Wet wood pulp was forced down onto a fine mesh screen under great pressure. The result was a panel with a "smooth" side from the weight of the steel plate, and a "rough" side from the impression of the screen. Wood fiberboards could be purchased in varying thicknesses and sizes from commercial lumberyards. Albers preferred to use Masonite panels, but he also availed himself of panels made by many other producers, including Tek-Boards and Scantex boards, the latter especially after 1962. When buying boards for his *Homage to the Square* series, Albers would seek out and pay a premium price at the lumberyard for panels with clear surfaces and even grid patterns. He had the boards cut according to dimensions preferred for the *Homages*, from 16 x 16 inches square up to the largest, 48 x 48 inches square. The grid lines on the panels, however, remained uniform across all the sizes, giving the textural presence of the boards different appearances at the various scales. While the mesh pattern is quite evident in the smaller paintings, it appears much finer in the larger works.[3]

Albers was not alone among artists of the time in choosing wood fiberboard as a painting support. The firmness and flatness of the panels provided a surface especially amenable to applying paint with a palette knife. It is easy to imagine that the sober, mass-produced character of the panels would have appealed to Albers' Bauhaus-trained sensibility. And the final result of the painted boards – their simplicity, thinness, and self-contained quality – give Albers' finished works a contained, icon-like presence.

Albers painted primarily on the smooth side of the fiberboard panels from the 1930s through the mid-1940s. The paint sits thickly on the surface, giving works from these years, such as *Related A* (1937) [cat. 20] and *Penetrating (A)* (1938) [cat. 21] a characteristically rich, almost frosting-like appearance, the strokes of the palette knife readily visible.

Albers experimented and exploited every quality of the wood fiberboards – flatness, roughness, smoothness, color, and density. For *b and p* (1937) [cat. 19], he used the tawny brown of the unprimed wood composition board as both ground and color [fig. 7, 8]. Similarly, the deeply incised lines on *Together* (1939) [cat. 26] cut through the white ground to reveal the underlying sienna tones of the fiberboard as a hue as vibrant as the red and blue [fig. 9, 10]. The coarseness of the gridded texture on the rough side of the composition board became the activating feature of the shaded polygons of *Study for Equal and Unequal* (1939) [cat. 27] [fig. 11, 12].

From the late 1940s through the early 1950s, Albers used both the smooth and rough sides of the wooden panels. But by the mid-1950s he employed the textured side exclusively. He stated that the rough side "gave more resistance to the wall."[4] Moreover, the canvas-like texture of the mesh grid offered more tooth to hold the ground and the paint, and thus provided a more stable support altogether.

In addition to utilizing fiberboard as his standard support, Albers occasionally experimented with other surfaces. In his first years at Black Mountain, he made versions of early glassworks by sandblasting the surfaces of polished and painted aluminum panels. He used zinc white oil paint on a stainless steel panel to create *Heraldic* (1935) [fig. 13]. In its crisp execution as well as its reliance

3
Charles Tauss Papers, Josef and Anni Albers Foundation Archive, Bethany, CT, USA.

4
Josef Albers, "Descriptive catalogue of my paintings," Josef Albers Papers II.B. 63.4, The Josef and Anni Albers Foundation Archive, Bethany, CT, USA.

on a loosely abstracted, representational form, the work suggests a transition from the emblematic imagery of Bauhaus glassworks of the late 1930s, such as *Falsch gewickelt* (Rolled Wrongly, 1931) [fig. 14]. In the late 1950s and early 1960s, Albers made a series of *Homage* paintings on commercially manufactured aluminum panels which had been coated with a canvas-textured ground. On first glance, these paintings are indistinguishable from *Homages* painted on Masonite grounds. Only when seen from the reverse or on edge are the shiny aluminum backings and blade-thin aspect of the boards revealed.

## Grounds

Over the course of his nearly fifty-year-long career as a painter, Albers used a number of different grounds with which to prepare the surfaces on which he painted. What unites these preparations across the five decades is their clean, bright whiteness. On one hand, grounds are functional: they create a layer between the board and paint, sealing the board and providing a stable, chemically neutral surface onto which the paint will permanently adhere. In classically taught painting, an artist might choose to use a toned ground, typically an ochre, umber, reddish or grayish mixture, in order to establish background hue and value that would emanate through the pigments, imbuing the painting with warm, golden or cool, silver light. Many modern artists primed their canvases with a glue preparation that gave them a workman-like ground only slightly darker than the original weave itself.

Albers' choice of a white ground was inspired by the teachings of Max Doerner in Munich, who instructed his students to use the light ground in order to keep colors from darkening, holding out as an example the luminous colors applied over white grounds in the late works of J.M.W. Turner.[5]

For the first paintings made at Black Mountain College in 1934–1935, Albers used a multi-part recipe for his grounds. Following instructions in manuals written by German painting instructors Max Doerner and Kurt Wehlte, Albers applied as many as ten layers of egg tempera emulsion, zinc white, chalk (calcium carbonate), linseed oil, and shellac.[6]

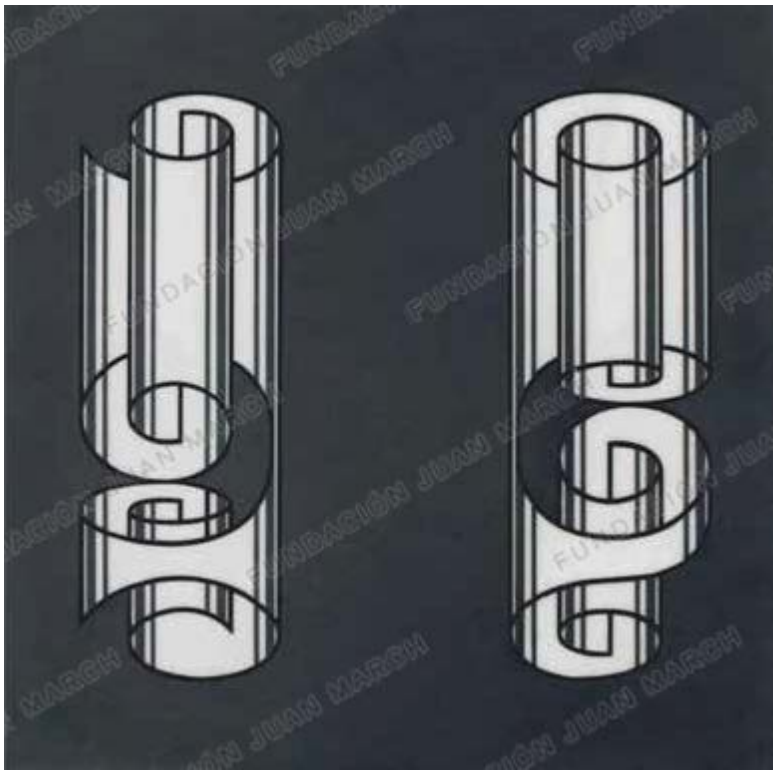
By the late 1930s and well through the 1950s, Albers relied on commercially manufactured interior house paints as primers. Two of these house paint grounds, Sherwin-William's Kem-Tone and the US Gypsum Company's Texolite brand, were oil-and-water mixtures, emulsified with casein [fig. 15]. In the late 1940s Albers began using the brand Luminall, another casein-based interior paint. By the early 1950s he had turned to DuPont flat white and semi-gloss interior paints, which were manufactured from synthetic, alkyd resins. These new paints were part of a wave of new building and finishing materials produced after World War II, each widely advertised in the burgeoning home-décor world as a revolution in coverage and ease of clean-up.[7] Such qualities also appealed to artists, who in turn gained some respite from the alchemist's laboratory efforts of the earlier, homemade grounds. The house-paint grounds were applied in two to four coats, allowed to dry in between, and then lightly sanded and carefully wiped before paint was applied.

In 1955 the Permanent Pigments Company began producing artist's acrylic paints as well as an acrylic-based gesso under the Liquitex label. Smooth flowing and tinted a bright zinc white, Liquitex gesso offered a superior surface for all media, including oils. Albers' first recorded use of the new primer was in 1957. From 1959 onward, he used the Liquitex brand exclusively, applying the emulsion in five to six, sometimes as many as eight, thin coats, in order to create a brilliant surface for his paints.

5
Charles Tauss Papers, Josef and Anni Albers Foundation Archive, Bethany, CT, USA.

6
Max Doerner, *Malmaterial und seine Verwendung im Bilde*, 4th ed. (Stuttgart: Ferdinand Enke Verlag, 1933); Kurt Wehlte, *Ei-Tempera und ihre Anwendungsarten* (Dresden: Verlag Hermann Neisch and Co., 1931).

7
Harriet A.L. Standeven, *House Paints, 1900–1960: History and Use* (Los Angeles: Getty Conservation Institute, 2011).



↑ **fig. 13**
Josef Albers, *Heraldic*, 1935. Zinc white on stainless steel panel, 16 3/4 x 16 in. (42.5 x 40.6 cm). The Josef and Anni Albers Foundation (1976.1.1863)

↑ **fig. 14**
Josef Albers, *Falsch gewickelt* (Rolled Wrongly), 1931. Sandblasted opaque glass, 16 9/16 x 16 9/16 in (42 x 42 cm). The Josef and Anni Albers Foundation (1976.6.22)


→ **fig. 15**
To create the bright white grounds he preferred for his paintings, throughout the 1940s and into the mid-1950s Albers used the new, fast-drying forms of casein- and alkyd-based interior house paints, including the Kem-Tone brand produced by the Sherwin-Williams Company

## Preparatory studies

Like the director Alfred Hitchcock, Josef Albers thought through his artwork quite completely before he commenced to make it. The compositions of his paintings and the choice of colors were determined before he sat down at his studio table with board laid flat before him and with tube of paint and palette knife in hand. The search for underdrawings and *pentimenti* in Albers' paintings often comes up empty-handed. Where underdrawings do exist, they correspond nearly exactly to the finished composition. There are preparatory sketches on paper for some groups of paintings. For a set of works from the late 1930s and early 1940s depicting intersecting polygonal forms, Albers made several preparatory sketches, many with geometrical calculations in the margins [fig. 16]. The artist was computing the surface area covered by each color. This kind of surface area calculation, in which Albers sought to create equal or proportional areas of pigment, was part of his exploration of "color climates." He was interested in the way that the position of areas of pigment in a composition could determine the overall impression of the painting's color, without regard for the actual amount of the color actually present in the painting.[8]

The calculation of surface areas of color, and the effort to create distinct, sometimes radically different color climates using the same pigments in varying positions, was the guiding proposition for Albers' *Variant* series. Using gridded paper, Albers worked out several "schemes," as he termed them, striving to make the pigment areas of the pictures as equal as possible [fig. 17]. Creating a grid of units, each about 2 centimeters square, Albers would then assign colors to each area. The lines demarcating each area were scored with a fine pencil on to the primed panel, and the painting was made, Albers duly recording the pigments and the surface areas of each in his inscriptions on the reverse of the works.

While Albers' *Homage to the Square* series was also conceived as an exploration of color interaction, the areas comprising each of the "squares" were not intended to be equal. Rather they were proportionate, based on a square grid of ten by ten units. The ten-by-ten grid, adjusted to scale, was applied to each of the different *Homage* panel sizes.[9] From the first days that Albers made the *Homages*, he determined four basic compositions: a pattern of four squares, a three-square pattern with a narrow second margin, a three-square pattern with a wide second margin, and a three-square pattern with a large center square. After the wood fiberboards were primed, the outlines of the squares were scored lightly with a very hard graphite pencil or a silver colored pencil (an aluminum, clay, and wax composite), which Albers believed would not migrate through the paint.[10]

Although Albers' method of preparing and painting his artworks obviated most experimentation and trial and error in the execution, he did create studies for the early works, the *Variant/Adobe*, and for the *Homages*. Thick, soft blotting paper – often used in printmaking – was the preferred surface for his studies, because it quickly absorbed the oil paint and became dry to the touch within minutes. The painting studies take four principal forms: complete or half-page compositions painted in oil on blotting paper [cat. 47]; rough color sketches, sometimes several to a page, in which Albers quickly laid color on top of color in an effort to find the right combination [cat. 49]; color swatches prepared for specific paintings; and, most commonly, fragments of blotting paper on which Albers spread color samples of closely related colors, frequently colors of the same name from different manufacturers, and half-varnished them in order to foresee how the colors might be altered in the final painting.

8
Josef Albers, "Color Juxtaposition – harmony – quantity," in *Interaction of Color* (New Haven and London: Yale University Press, 2006), 39–44.

9
Patricia Sherwin Garland, "I could paint that! Forgery of an *Homage to the Square*," in *AIC Paintings Specialty Group Postprints* 20 (2008), 83.

10
Charles Tauss Papers, Josef and Anni Albers Foundation Archive, Bethany, CT, USA.

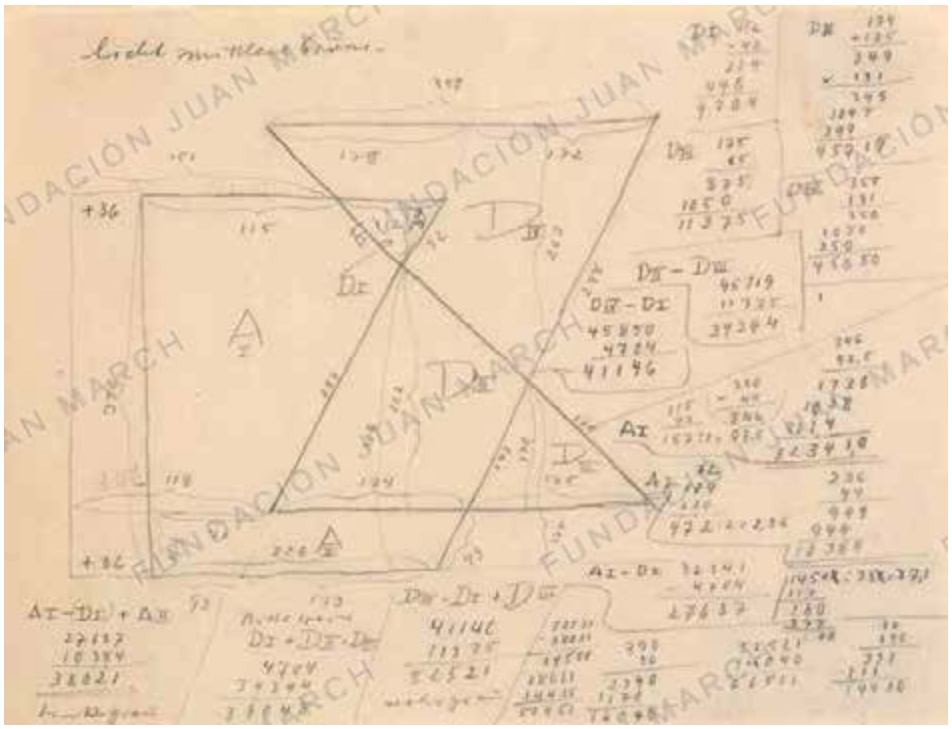


fig. 16
Josef Albers, *Sketch for Movement in Gray*, 1939. Pencil on paper, 5 3/8 x 7 1/4 in (13.6 x 18.4 cm). The Josef and Anni Albers Foundation (1976.2.195b)

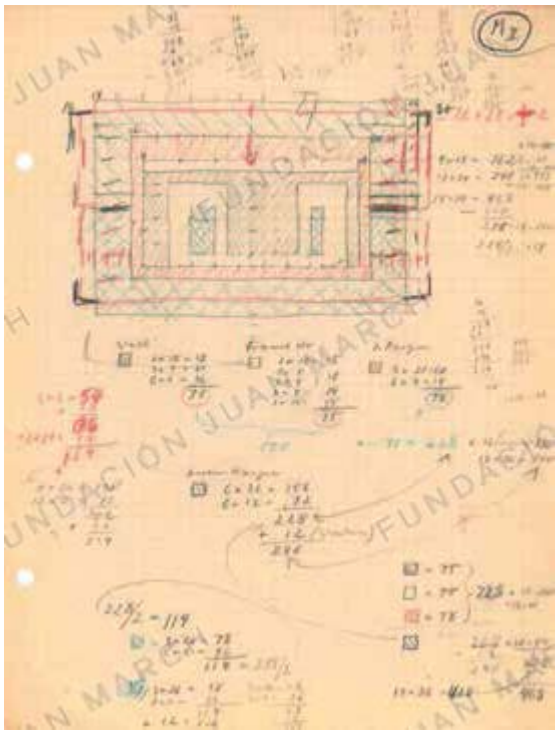


fig. 17
Josef Albers, analytic sketch for a *Variant*, ca. 1948. Josef Albers papers, The Josef and Anni Albers Foundation Archive, II.B. 118.4

**fig. 18**
Josef Albers, *Homage to the Square: Stele and Firmament*, 1962. Oil on Masonite, 40 x 40 in (101.9 x 101.9 cm). Collection Henie-Onstadt Kunstsenter, Oslo

The color studies are heavily annotated with the names of the paints and their manufacturers, and with Albers' x's and circles, marking his decisions to use one color, and to disregard another, if only for the moment.

Many of these color studies can be connected to finished works. For instance, two rapidly painted color studies in red on a single page were preparatory for a finished *Homage* from 1967. An enfilade of greens along the edge of a sheet [cat. 47] can be related to the *Variant* titled *Six Greens* (1948–1957), now in the collection of the Honolulu Museum of Art. A group of three sketched *Homages* with color spread over color [cat. 48] can be related to a series of *Homage* paintings made in the 1960s, all with the word "stele" in their titles, as Albers investigated combinations of gray inner squares with outer margins of ochre, sienna, cobalt green, or cerulean blue [fig. 18].

These paper studies were originally meant as studio tools for the artist, tacked up on a wall, then taken down and stored in a box or a drawer. Albers created thousands of them. But whereas they were once incidental, through their inclusion in exhibitions and catalogues, they have assumed a presence as artworks in and of themselves, for their painterly immediacy, their living sense of the artist's hand, and their attestation to Albers at work, thinking through color.

## Pigments

Albers preferred to use manufactured oil paints, and to use them, as the inscriptions on the reverse of his artworks state, "directly from the tube." In the early 1950s he also used casein paints, water-soluble pigments in a milk-based binder. Caseins are a fast-drying medium, comparable to gouache, but with a density of color and texture comparable to oils. On occasion, Albers used both oil and casein paint in the same picture; after varnishing, the different paints were indistinguishable to the naked eye.

There are a handful of works from the mid-1960s made with what were then relatively new acrylic paints, such as *Homage to the Square: Glow* (1966), in the collection of the Hirshhorn Museum and Sculpture Garden, Washington, D.C. [cat. 94]. While acrylic paints may have offered the advantage of drying more quickly, they lacked the intensity of color and the density of substance of oils. The surfaces of Albers' acrylic paintings have an overall flatness, and show little evidence of palette knife strokes.

Albers used paints from some fifty manufacturers. For reasons of quality or sometimes just hue, at various stages of his career he favored the pigments of certain producers – Grumbacher, Permanent Pigments, Winsor and Newton, Shiva, Lucien Lefebvre, Blockx, Bocour. But he was just as likely to use student- and amateur-grade paints, especially in the early years. What mattered was the color itself. Where another artist might stay with a favored line of paints from a single manufacturer, and mix the pigments to obtain the color desired, Albers preferred to use the products of multiple producers as a kind of ready-made palette. Pigments of the same name from different manufacturers could vary greatly. The Cadmium Yellow Deep paint made by Grumbacher was a markedly different hue from the Cadmium Yellow Deep made by Rembrandt.

In his conversations with conservator Charles Tauss in the 1960s, Albers said that "he wished to keep the nature of the pigments ... the characteristics of the paint." Whether a grainy raw umber, a dense yellow ochre, or a transparent veil of cobalt violet or manganese blue, every pigment had

fig. 19
A tray of neutral gray paints from the Albers' studio materials. The Josef and Anni Albers Foundation. Photo: Greg Swan and Emily Geller

particular qualities of relative transparency or opacity, governed by the coarseness of the ground pigments and the density of the binders.[11] Albers used these characteristics as operative factors in making a painting, varying his palette knife technique, and using the white of the underlying fiberboard to create variations in hue and value, making the paint appear heavier or lighter as he might wish. While he did not use turpentine and linseed oil to thin paints, he sometimes extruded the paint from the tube onto blotting paper, to absorb excess oil and to gain a thicker, more opaque consistency.[12]

Among the paints frequently used by Albers were tubes of the neutral gray series of pigments produced by many companies from the 1940s through the mid-1960s. Created as an aid for designers and illustrators, but now rare and forgotten, the neutral gray series were intended to help artists create quick, accurate, and repeatable mixtures of colors, from light tints to deep tones. Academic art instruction often dictated using a controlled range of gray paints in order to create predictable values in mixed hues. For instance, Grumbacher produced two neutral gray series, the "Illustrators Gray" series available in five tones, and the "Reilly's Neutral Gray" set of nine paints in progressive tones of gray, from dark to light, created in the 1940s by illustrator Frank J. Reilly (1906–1967). The gray series produced by Shiva was marketed as "Chapin Neutral Grays." The Entwistle Company, under the Marabu label, produced a series of "Optical Grays," available in both warm and cool tones [fig. 19].

Rather than as aids to make reliable mixtures, Albers used the neutral grays right from the tubes. In his hands, gray became a color in its own right. Albers was masterful in drawing color out of seemingly neutral tones. Multiple grays used side by side could create the illusion of overlying films of color. When placed next to deep greens or reds, a middle-toned gray was transformed in the eyes of the viewer into a somber violet. A cool gray next to warm colors appeared startlingly blue, just as a warm gray next to blues migrated toward the yellow.

In his classroom teaching and in his lectures and writings on the interaction of color, Albers often proclaimed that there was no such thing as an ugly color. Whether dull and awkward or cloying

11
Ibid.

12
Patricia Sherwin Garland, "Josef Albers: His Paintings, Their Materials, Technique and Treatment," *Journal of the American Institute for Conservation* 22, no. 2 (1983), 62–67.

fig. 20
Josef Albers, *Color Study of Naples Yellows*, n.d. Oil on blotting paper, 4 3/4 x 11 3/8 in (12 x 28.8 cm). The Josef and Anni Albers Foundation (1976.2.1332)

and garish, any color could be "redeemed" by the good company of other hues. In fact Albers seemed to revel in using broad expanses of difficult colors in juxtaposition with other paints, and delight in the transformation. A mundane ochre could be made to shimmer next to oranges and reds, as it does in the outermost margin of *Homage to the Square: Affectionate* (1954), in the collection of the Musée national d'art moderne, Paris [cat. 64]. When couched between brilliant yellows, the flaccid tones of a Naples yellow reddish could be transfigured into a mutable, soft orange, as in the large *Homage to the Square* from 1971 in the collection of the Josef and Anni Albers Foundation [cat. 105]. Sometimes, the transformation of a color was as much a product of how it was painted as where it was placed in the composition, as was the case with an otherwise dull cobalt yellow called aureolin. By applying the paint with a scraping motion of the knife to reveal the underlying weave of the white-primed wooden fiberboard panel, Albers created an optical mixture of yellow and white, making the leaden aureolin shine like gold.

Once Albers understood just how variable manufactured paints could be, he made that knowledge a part of his experimentation. Since the Naples yellow from one manufacturer was very different from the Naples yellow of another, it was possible to make a painting comprised entirely of three quite different yellows, all of them incidentally called "Naples yellow" by their makers [fig. 20].

In the mid- to late 1960s, Albers had noticed increased color variation in the manufactured paints he used. Batches of a specific color of oil paint from a single producer fluctuated significantly, whether from one month to the next, or from a large tube to a small tube of the same color purchased at the same time. The reasons for the changes in pigments must be looked for in the recipe books of the manufacturers themselves, where the exigencies of business finance and the scarcity of minerals dictated cost-saving measures, such as the use of lower quality pigments, changing oils and binders, or employing extenders and fillers, which altered the color and consistency of paints. In his notebooks and inscriptions of the mid-1960s, Albers began to note whether the paints used were from a "new" tube or an "old" tube, a "large" tube or a "small" tube.

In 2009–2010 researchers at the Albers Foundation inventoried and catalogued the studio materials that had remained in Albers' Orange, Connecticut, studio at his death in March 1976. The researchers discovered cryptic writing on many tubes of paint – combinations of Roman and Arabic numerals such as "III 8" or "IV 5" [fig. 21]. Similar numbers could also be found incised into the paint surfaces of the color studies, and inscribed on the reverse of the finished paintings. The puzzle was soon solved: Albers dated his paints. He marked the boxes and tubes of paint with the date of purchase, so that he could be sure to use only paints from the same batch in the same painting [fig. 22].

## The *Homages*

Because they are the works of his most mature thought and the products of his greatest, most sustained attention and energy, it is worthwhile to discuss the materials and techniques of Albers' *Homage to the Square* series in some detail. From 1950 to 1976, Albers created more than 2,000 *Homages*. The series comprises an unprecedented experiment in color and vision, and is, in its quiet persistence, also a tour de force of painting technique.

Elaine de Kooning's 1950 article in *Art News*, "Albers Paints a Picture," illustrated with photographs by Rudolph Burckhardt, showed the artist working on the floor with an array of small *Homage to the Square* oil studies on blotting paper laid out before him [fig. 23].[13] With a collection of cut paper squares in one hand, Albers tried out various combinations of center squares and borders, until he felt the relationships of colors was right. Although the compositions of the *Homages* are today commonly misunderstood as an assembly of superimposed squares, painted one over the other, Albers' early cut paper experiments are in fact more representative of his intentions for the series, and of the construction of the works themselves. In his studio notes, Albers repeatedly described the elements of the *Homage* as a center square and a series of margins – first margin, second margin, outer margin, and white margin, the exposed border of primed ground. Each margin is of course but a single coat of paint: with very few exceptions, any impression of overlaid color is purely illusory, a product of the viewer's perception.

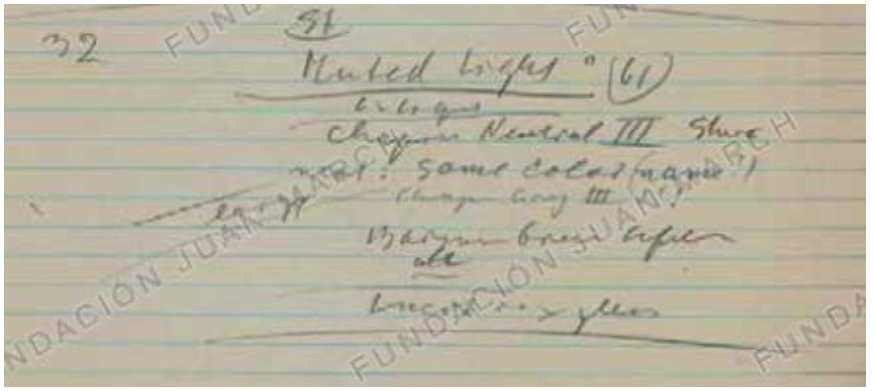
The concentric character of the *Homages*, the attention Albers gave to differentiating between what is part of the picture and what is not, and even the conception of the works as a series of nested forms, harken back to the careful attention he gave to borders and edges in earlier works. The borders of closely toned gray and carefully incised lines of *Penetrating (A)* (1938) [cat. 21] demarcate the picture plane and concentrate attention on the interlocking polygons at the center. Similarly the creamily painted, wide boarders around paintings of the 1940s, such as *To Mitla* (1940) [cat. 33] and *Kinetic VII* (1945) [cat. 37], also work to concentrate the viewer's attention on the central composition. It is as if Albers conceived of the picture plane as a theatrical scene, with the margins and borders serving as curtains, flies, side-wings, and proscenium arches that frame the action of the play, which action is revealed to be the architecture of the stage itself.

In making the *Homages*, Albers followed a specific, constant routine. After a wood fiberboard panel was primed and scored and ready for painting, it was laid flat on a table in his studio. Seated

13
Elaine de Kooning, "Albers Paints a Picture," *Art News* 49 (November 1950), 40–43, 57–58. For a full reproduction of this lecture, see p. 322.

↑ **fig. 21**
A tube of Composé Green paint, manufactured by Blockx in Belgium. In heavy red ink, Josef Albers has written the date he bought the paint – January 8 – on the tube

→ **fig. 22**
An entry in Josef Albers' studio notebooks for the painting *Study for Homage to the Square: Muted Light*, 1961. Astonished by the marked variation between two tubes of Chapin Neutral Gray III oil paint, Albers used them as contrasting colors in the same work. The Josef and Anni Albers Foundation Archive II.B. 43.3




→ **fig. 23**
Using cut-paper templates, Albers experiments with varying the colors of center squares and outer margins for *Homage to the Square* paintings. This early method of determining the colors for the *Homages* was documented by the photographer Rudolph Burckhardt in 1950

under fluorescent lights, Albers would begin to work [fig. 24]. With palette knife in one hand and a tube of paint in the other, he applied the pigment from the center squares outward. The paint was laid down freehand, without any masking aid such as tape or a straightedge. The slow-drying character of oils meant that he could paint only one area at a time. To keep the boundaries crisp and to prevent the paint from smearing required a pause of days or even weeks to let the paint in one square dry enough before proceeding to the next square. This meant that Albers worked on several pictures at once. The dates of the paintings, his studio notes, and photographs of his studio suggest that he also worked with certain color families at the same time, experimenting with the placement and juxtaposition of certain colors. For instance, he might work with a certain group of yellows and oranges, trying them out in varying positions and combinations in the center, middle, or outer squares.

Because, as he put it, he wanted people "to know where the painting begins," Albers always left a thin white edge of primed ground around the finished work, and made sure that this unpainted margin remained visible in the framed picture.

Albers' method of applying paint "all in a single coat" followed the method of *alla prima* that he had learned under the tutelage of Max Doerner in Munich in 1919–1920. Doerner held that a single coat of paint on the ground, versus the older practices of layering thin washes over thicker substrates, created a more permanent, more durable layer of pigment.[14] Working in a single coat also meant that the white ground of the primer would come through to keep the color light. As Albers told Charles Tauss, the colors would appear "more transparent and therefore lighter in value."[15] There are those works, of course, that are anything but light in value, because of the thickness of the paint or because of the choice of overwhelmingly dark pigments. But the principle of transparency holds for most of Albers' *Homages*.

Elaine de Kooning's 1950 article described the creation of the "first" of these pieces, *Homage to the Square (A)* (1950), now in a private collection. A work from the collection of the Metropolitan Museum of Art, New York – *Homage to the Square: Precinct* (1951) [cat. 60] – uses a similar palette and painting technique. The sober composition of grays is typical of the first *Homages*, which are as much studies in values of light and dark as they are of color. Those made between 1950 and 1957 seem in retrospect highly experimental, as Albers works initially with grays, whites, and blacks, and then with tints of blue, green, and yellow, before diving headlong into exuberant compositions of brilliant yellows, oranges, reds, and pinks. With its central square of black surrounded by margins of white, gray, and permanent bright green, *Homage to the Square: Decided* (1951) [cat. 61] offers a dignified, tightly buttoned composition. But other paintings made in the same year, such as *Homage to the Square: Saturated* (1951) [cat. 59] and *Homage to the Square, Study for Nocturne* (1951) [cat. 58], wander more poetical domains. The deep violets of the central squares in these works hover just at the edge of perceptibility, appearing to recede and come forward anew with every change of angle or light.

By the mid-1950s, Albers turned from explorations of monochromatic tones and saturated hues to experiments with bright, dynamic contrasts of value and color. In *Homage to the Square: Affectionate* (1954) [cat. 64], the vibrant reds, orange, and ochre create a telescoping effect, a momentary impression of depth on the flatness of the picture plane. The contrast of near complementary colors – warm orange against blue-green, separated by a field of ochre yellow – gives *Homage to the Square: Midday* (1954–1957) an emblematic, expectant character.

14
Max Doerner, *Malmaterial und seine Verwendung im Bilde*, 160–75.

15
Charles Tauss Papers, Josef and Anni Albers Foundation Archive, Bethany, CT, USA.

**fig. 24**
Josef Albers in his studio,
Orange, Connecticut, 1973.
Photo: Sedat Pekay

The painting is self-contained, a finished work in itself, yet it also seems like a station on the path. It raises the question: what happens next?

What happens next is Albers' twenty-year experiment with color, an exploration that is at the same time also an investigation of the characteristics, the capacities, the possibilities, and the limitations of paint: spread thin or layered thickly, pushed toward sheerness and transparency or toward somber opacity.

The *Homages* of the late 1950s into the 1960s evince Albers' growing mastery of the variability and possibilities of the interactions of color, an understanding both intuitive and trained. He developed a keen feeling for mid-range hues that could create the illusion of overlapping colors, what he in his book, *Interaction of Color*, termed the "middle mixture."[16] Such colors shifted, according to the ambient light or adjacent hues. For instance, Albers preferred cerulean blue to other blues, because it tended toward the green. Similarly, he often used cobalt greens because they verged toward blue, toward green, or even toward gray, depending on the brand and the thickness with which they were applied.

Albers often sought out pigments that made a color work against type. While yellow is usually perceived as a warm color, Albers used barite and ultramarine-based paints that gave yellow a cool cast, as in the second margin of *Study for Homage to the Square: Now* (1962) [cat. 77]. However, whereas green is usually a cool color, chrome oxide-based greens often have a warm patina and a chalky consistency, so that the pigment can look brownish or grayish, depending on the adjacent hues. Such is the effect made by the chrome oxide greens used for the inner squares of *Study for Homage to the Square* (1967) [cat. 95], especially in juxtaposition with the cobalt green of the outer margin.

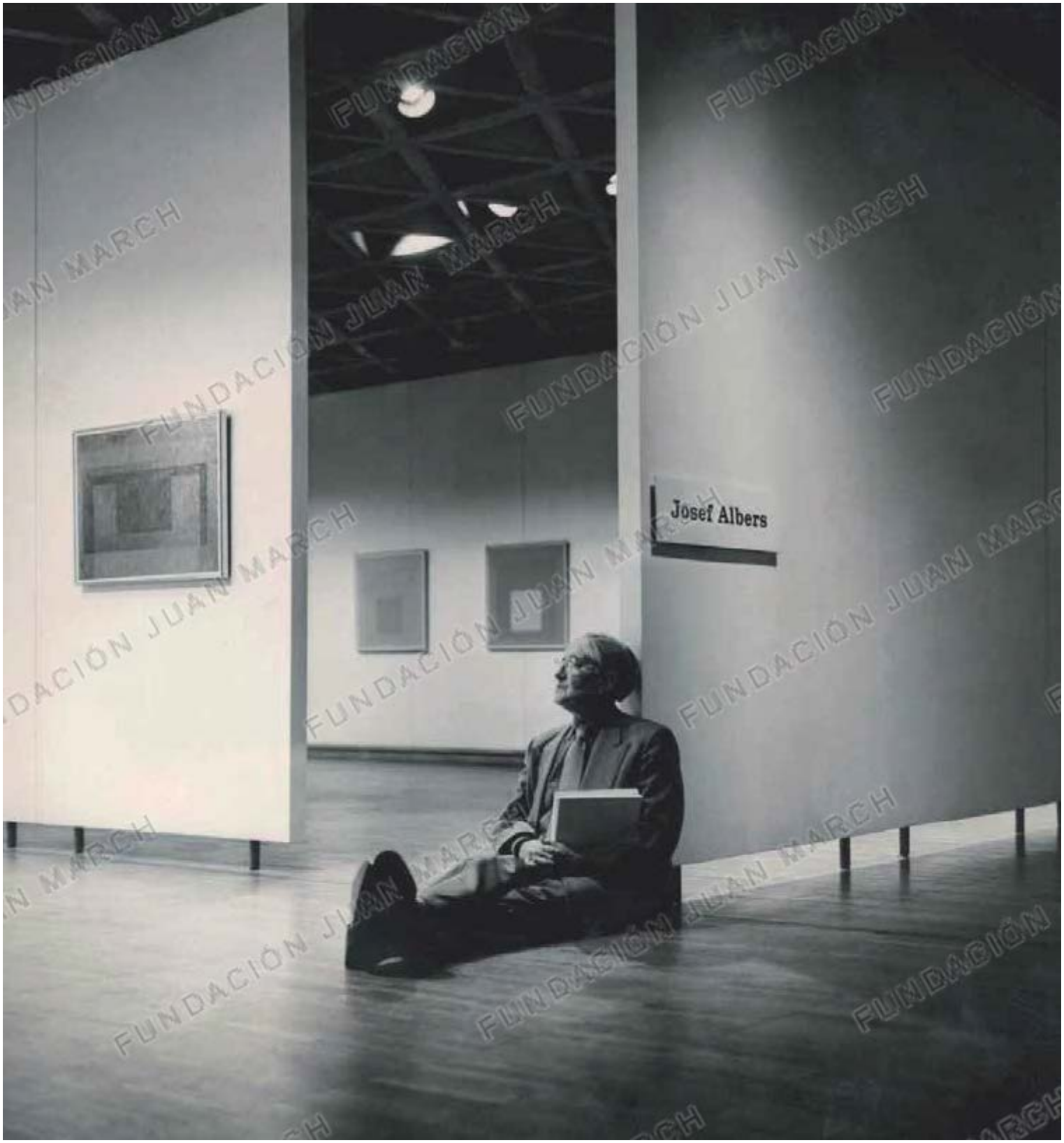
In the late 1960s Albers returned to the monochromatic explorations of his earlier years, albeit with greater sensitivity and increased awareness of the psychology and physiology of human perception. Instead of the thick black and gray impastos of the early 1950s, he created thin veils of gray and carefully controlled layers of reds, yellows, oranges, and greens. The closely toned hues in the *Homages* from this period challenge the eye's ability to recognize difference or sameness, as cool silvery grays appear as blues and warm grays seem to become yellows. Albers' red *Homages*, painted from 1966 through the early 1970s, are justifiably considered the masterworks of the series. Playing upon the human retina's innate sensitivity to the color (as well as red's psychological and cultural meanings), Albers explored perceptual phenomena such as equal light intensity, vanishing boundaries, transparence, and the columnar effect known as the Weber-Fechner law.[17] He created the illusion of blocks of color hovering in the space just before the painting, and used colors in combinations that let light reds appear orange, dark brownish reds look like cherry tones, and edges between the colors come in and out of focus.

But that all lives must end, one has the impression that Albers could have continued his experiments with color and perception indefinitely. It is a mistake to believe that his investigations were entirely measured and calculated. It is far more likely that when setting one color against another, he did not foresee the outcome. He was just as surprised, just as transfixed as the rest of us.

16
Josef Albers, "The middle mixture again – intersecting colors," in *Interaction of Color* (New Haven and London: Yale University Press, 2006), 37–38.

17
Nicholas Humphrey, *Seeing Red: A Study in Consciousness* (Cambridge, MA: Harvard University Press, 2006).

Jars of powdered pigments from Josef Albers' studio, probably manufactured in Germany in the 1920s (detail). The Josef and Anni Albers Foundation. Photo: Tim Nighswander

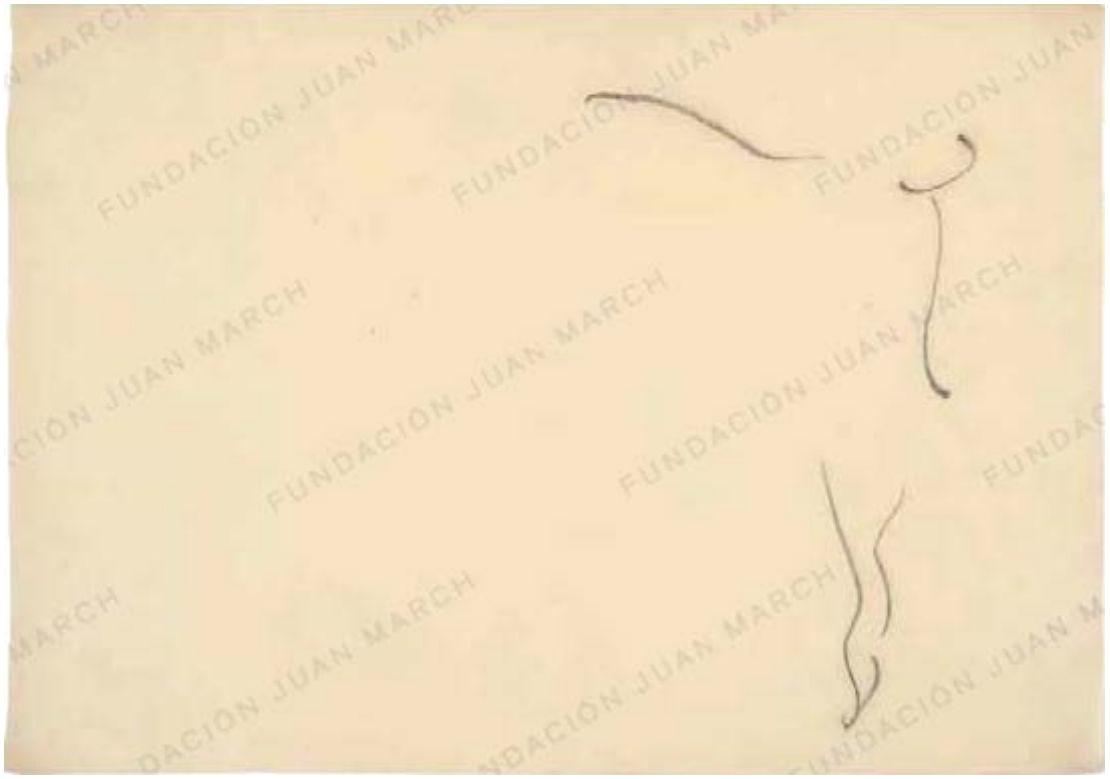



Josef Albers sitting on the floor of his retrospective exhibition at Yale University, New Haven, Connecticut (detail), 1956

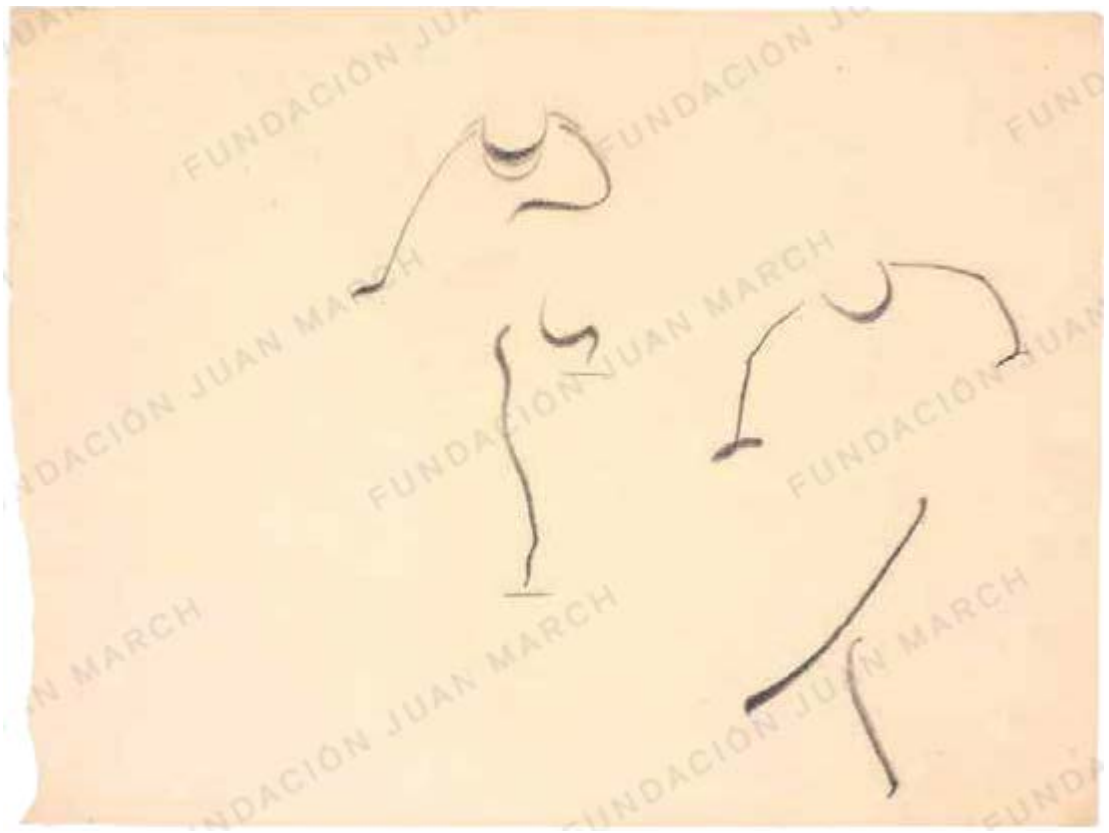
# Works

All works featured here are by Josef Albers
unless otherwise indicated

1
*Standing Bird, Front View*, ca. 1917
Ink on paper. 10 5/16 x 6 5/8 in (26.2 x 16.8 cm)
The Josef and Anni Albers Foundation, Bethany



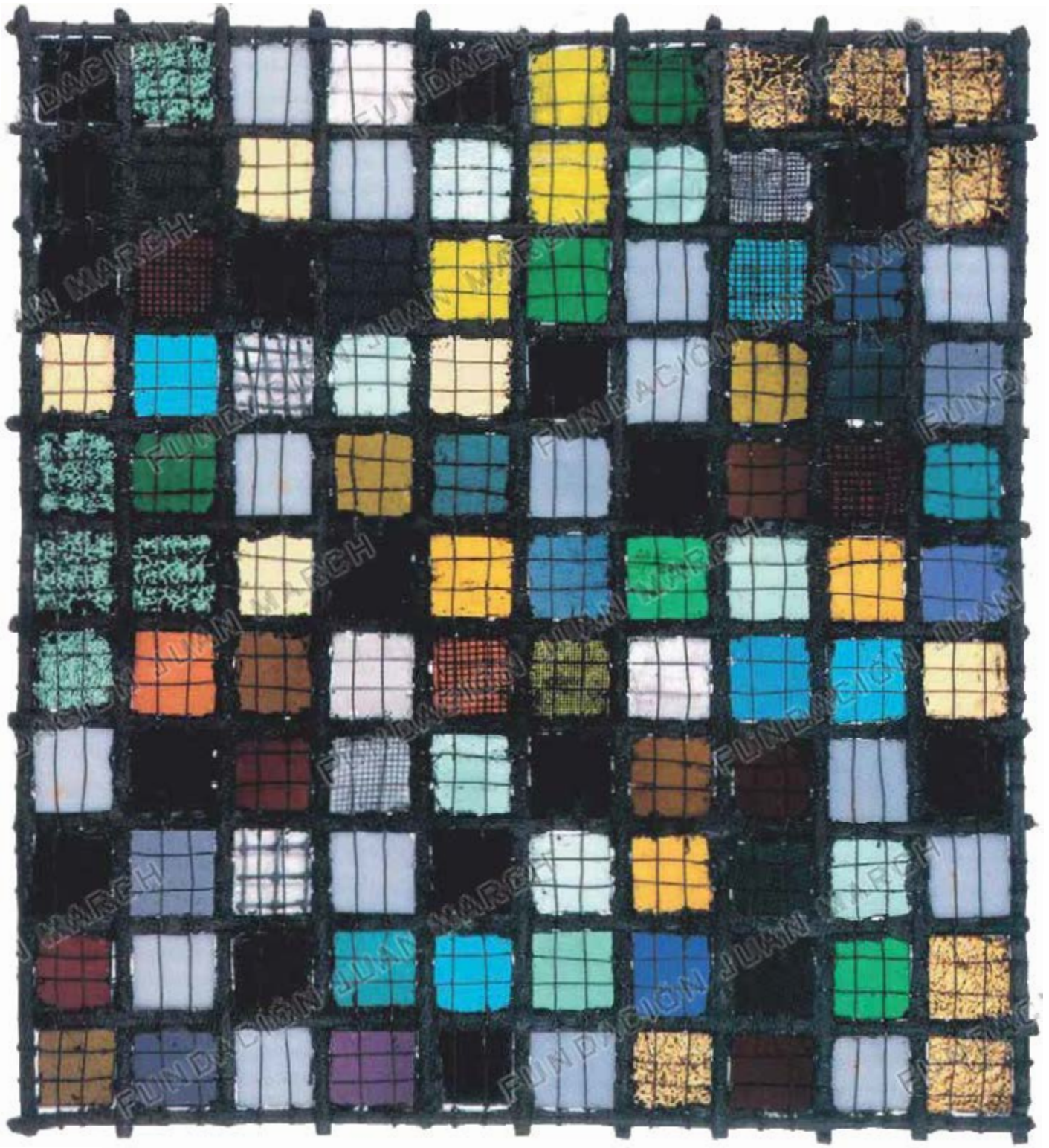
2
*Dancer*, ca. 1917
Pencil on paper. 10 3/16 x 14 7/16 in
(25.9 x 36.7 cm)
The Josef and Anni Albers Foundation,
Bethany

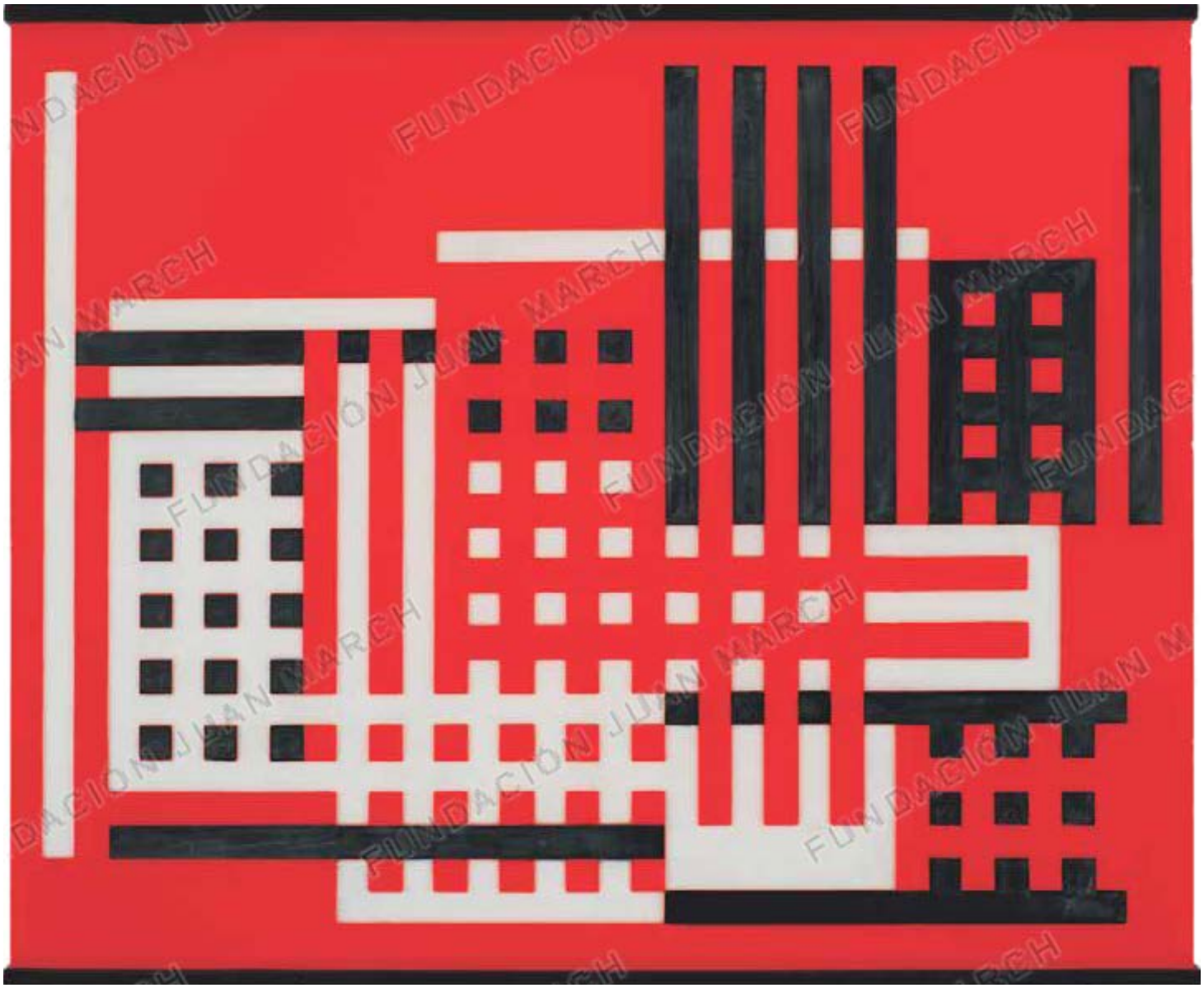


3
*Study for Green Flute Series*, ca. 1917
Pencil on paper. 10 ¼ x 14 7/16 in
(26 x 36.7 cm)
The Josef and Anni Albers Foundation,
Bethany

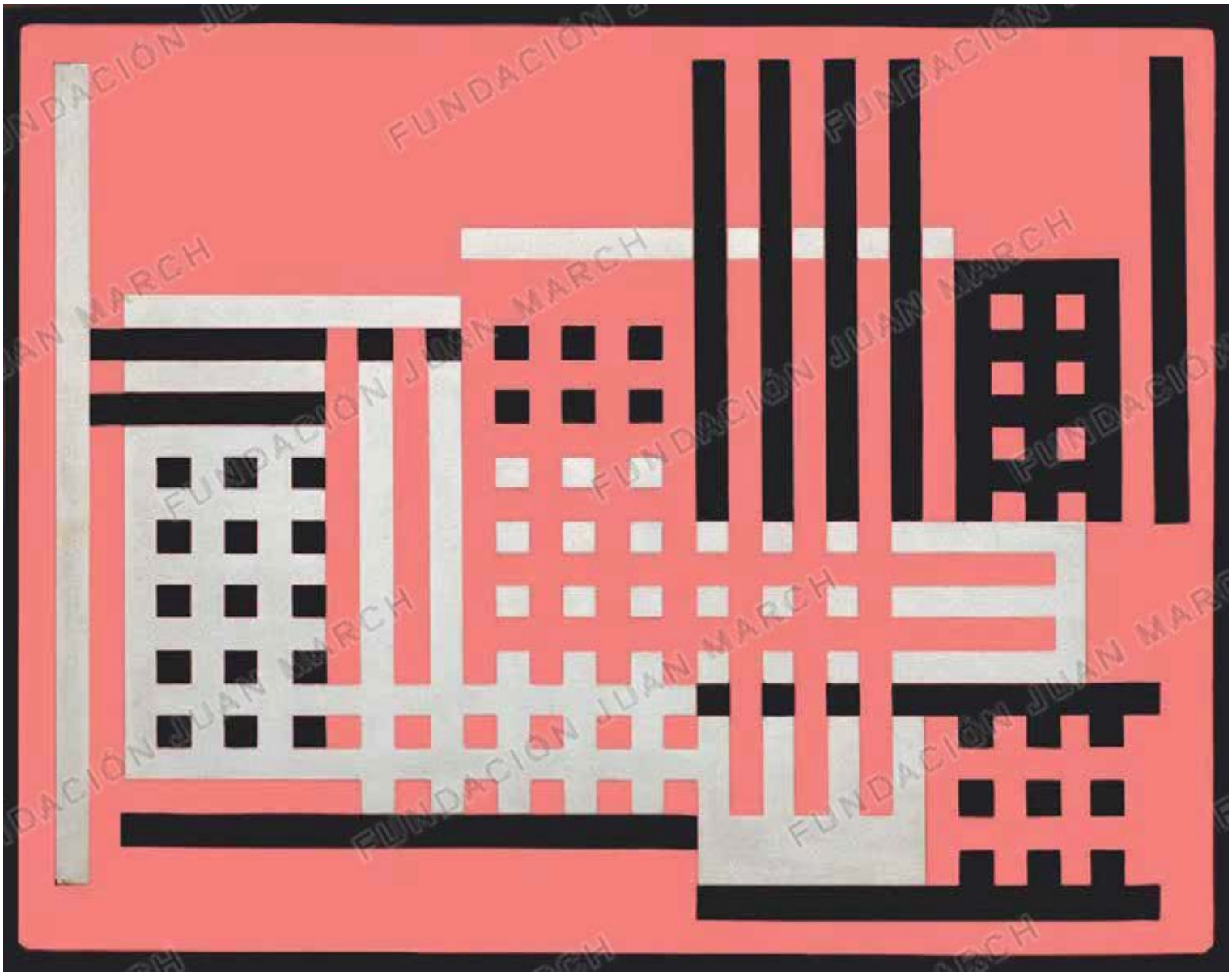
4
*Self-Portrait VI*, ca. 1919
Ink on paper. 11 ½ x 7 ¾ in (29.2 x 19.7 cm)
The Josef and Anni Albers Foundation, Bethany

5
*Gitterbild* (Grid Mounted) [Lattice Picture], ca. 1921–1922
Glass assemblage. 12 ¾ x 11 ⅜ in (32.4 x 28.9 cm)
The Josef and Anni Albers Foundation, Bethany

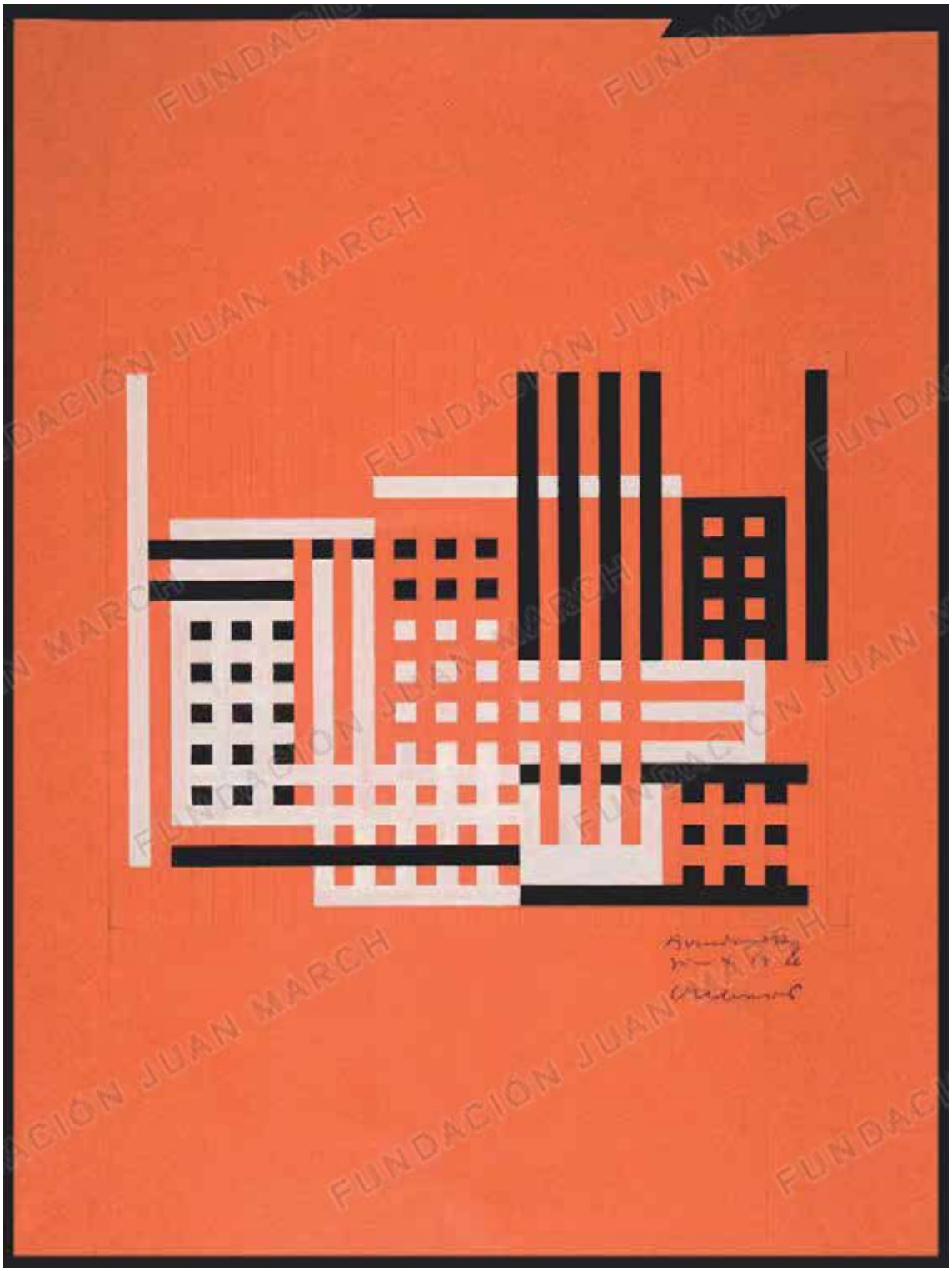




6
*Fabrik [25/2b]* [Factory (25/2b)], 1925
Sandblasted flashed glass, black paint. 11 x 14 in (27.9 x 35.6 cm)
The Josef and Anni Albers Foundation, Bethany

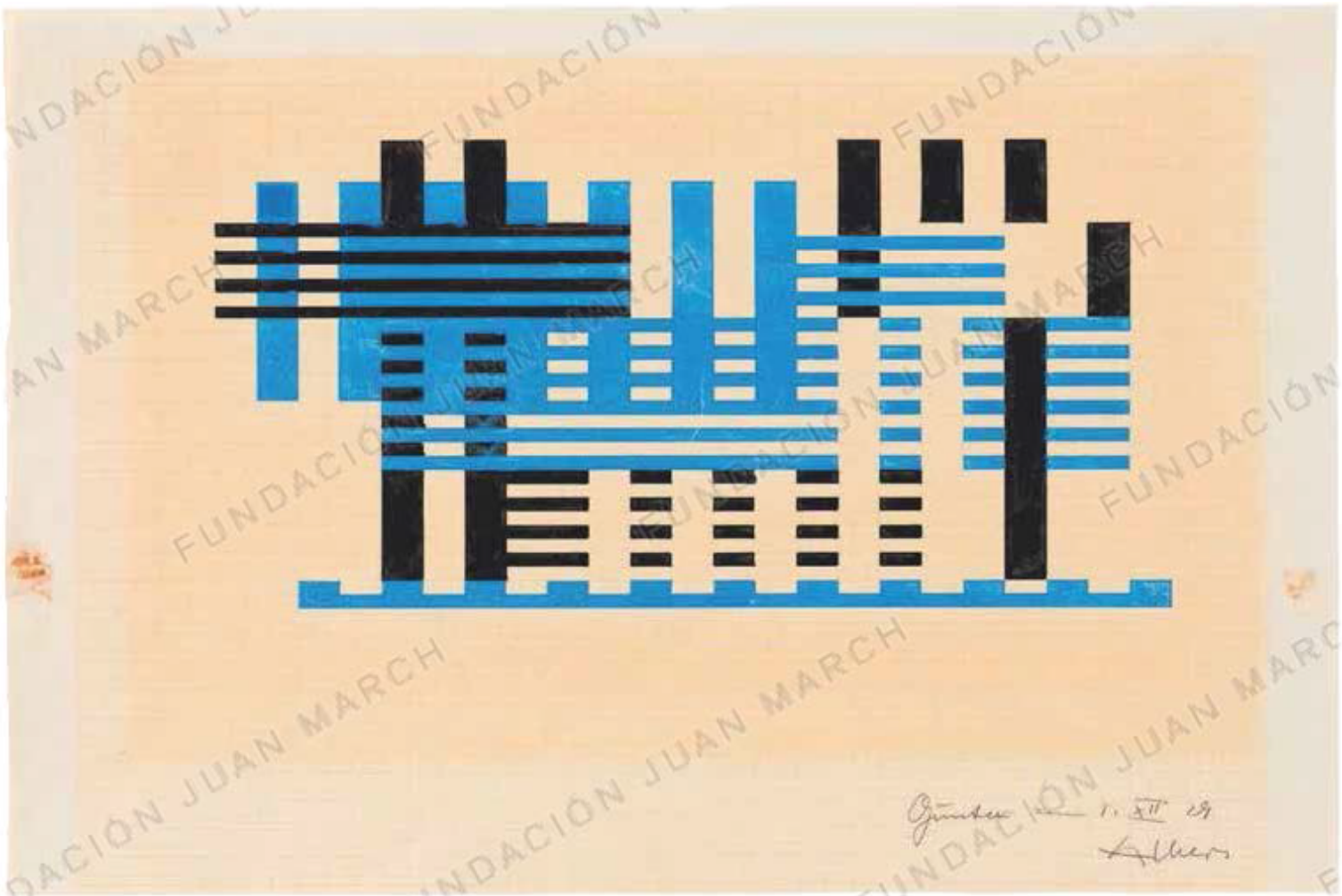


7
*Fabrik A* [Factory A], 1925–1926
Sandblasted flashed glass, black paint. 14 x 18 in (35.6 x 45.7 cm)
The Josef and Anni Albers Foundation, Bethany

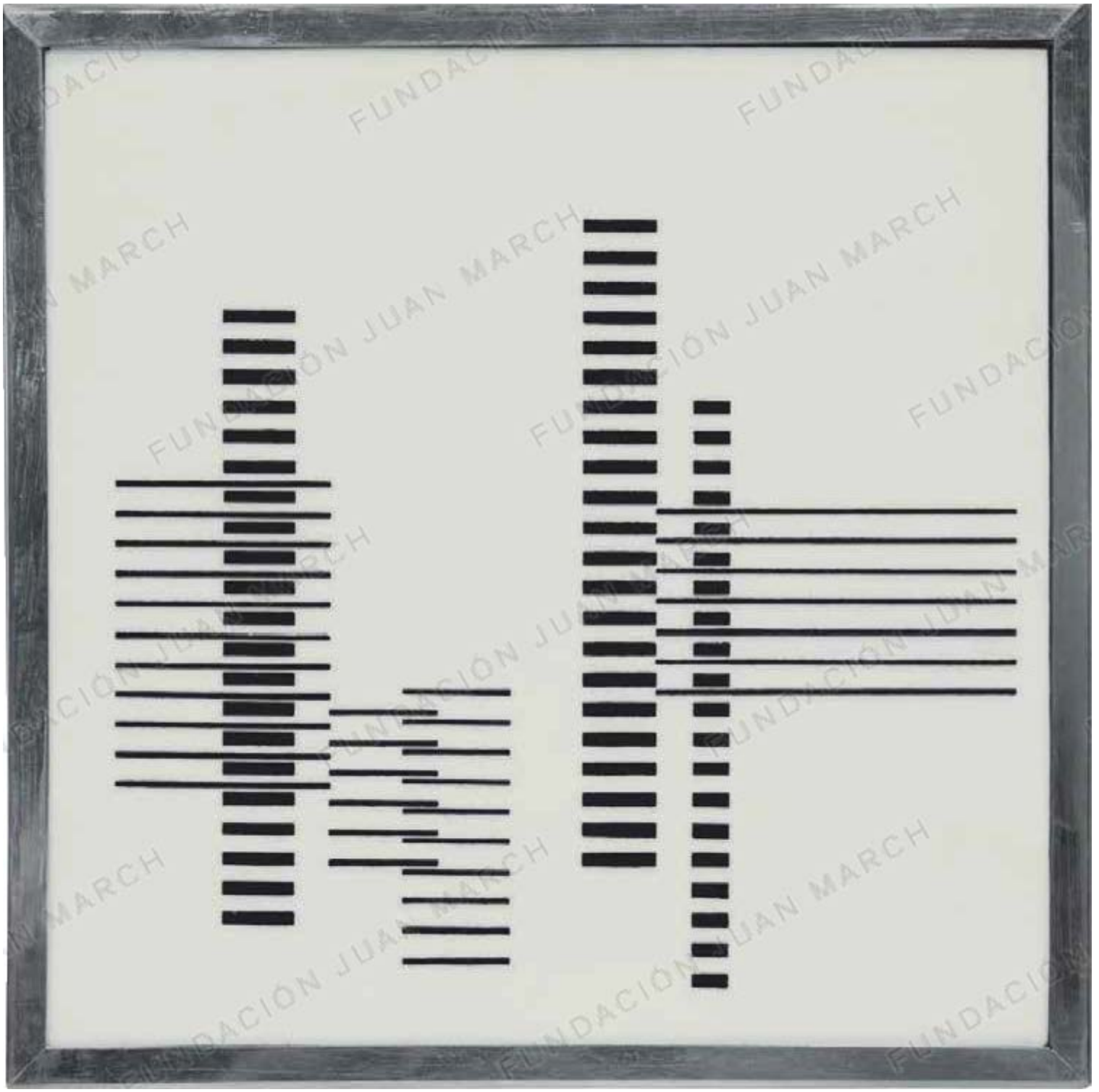


8
*Fabrik* [Factory], 1926
Gouache and pencil on paper. 19 11/16 x 14 7/8 in (50 x 37.7 cm)
Centre Pompidou, Musée National d'Art Moderne / Centre de création industrielle, Paris. Gift of the Société Kandinsky in 2002

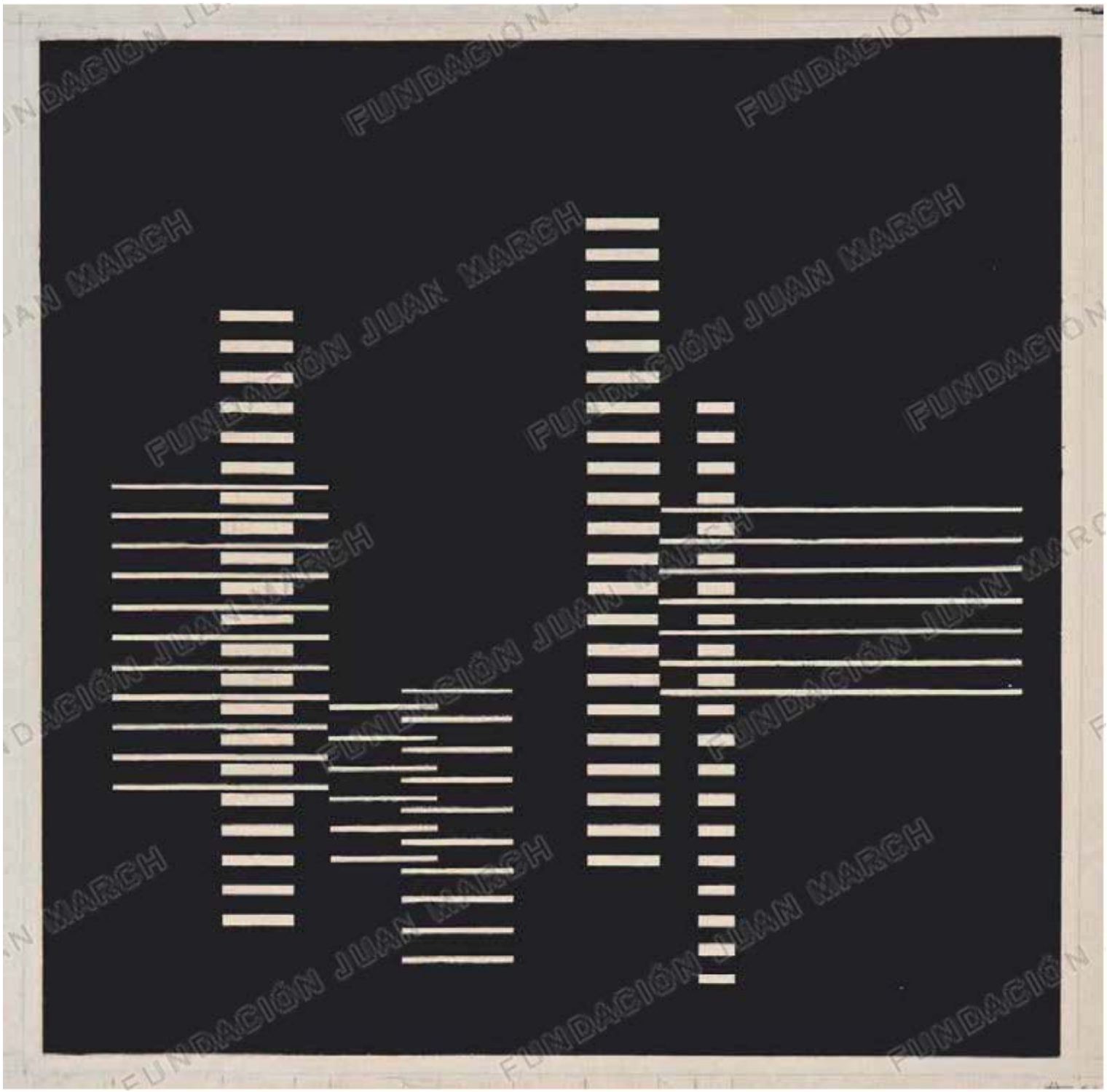
9
*Frontal*, ca. 1927
Sandblasted opaque flashed glass, black paint. 13 11/16 x 18 7/8 in (34.8 x 47.9 cm)
The Josef and Anni Albers Foundation, Bethany



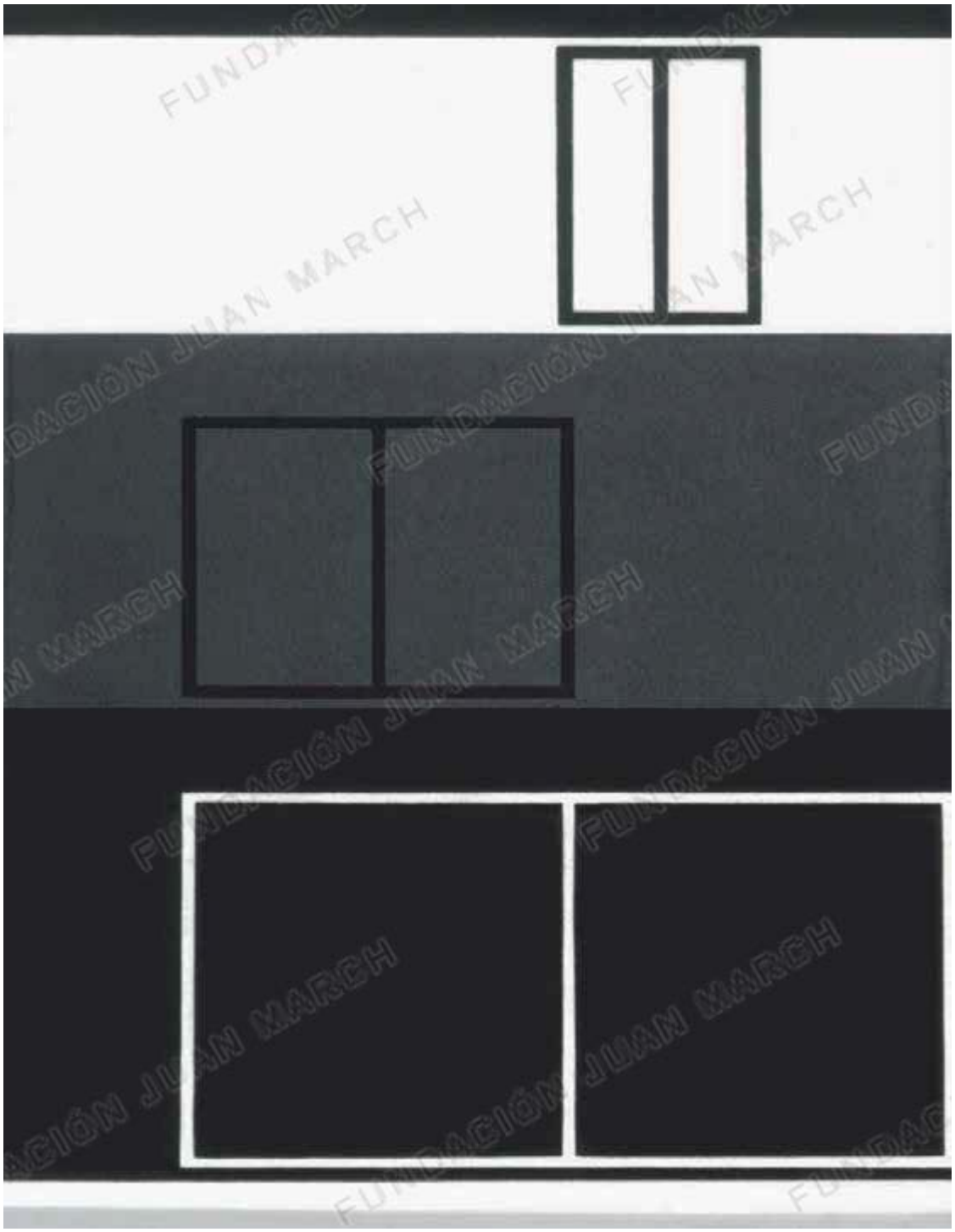
10
*Study for the Glass Construction Pergola*, 1929
Gouache (in blue and black) over pencil on graph paper.
12 11/16 x 18 7/8 in (32.3 x 48 cm); 17 5/16 x 22 5/8 in (44 x 57.5 cm passepartout)
Stiftung Bauhaus Dessau



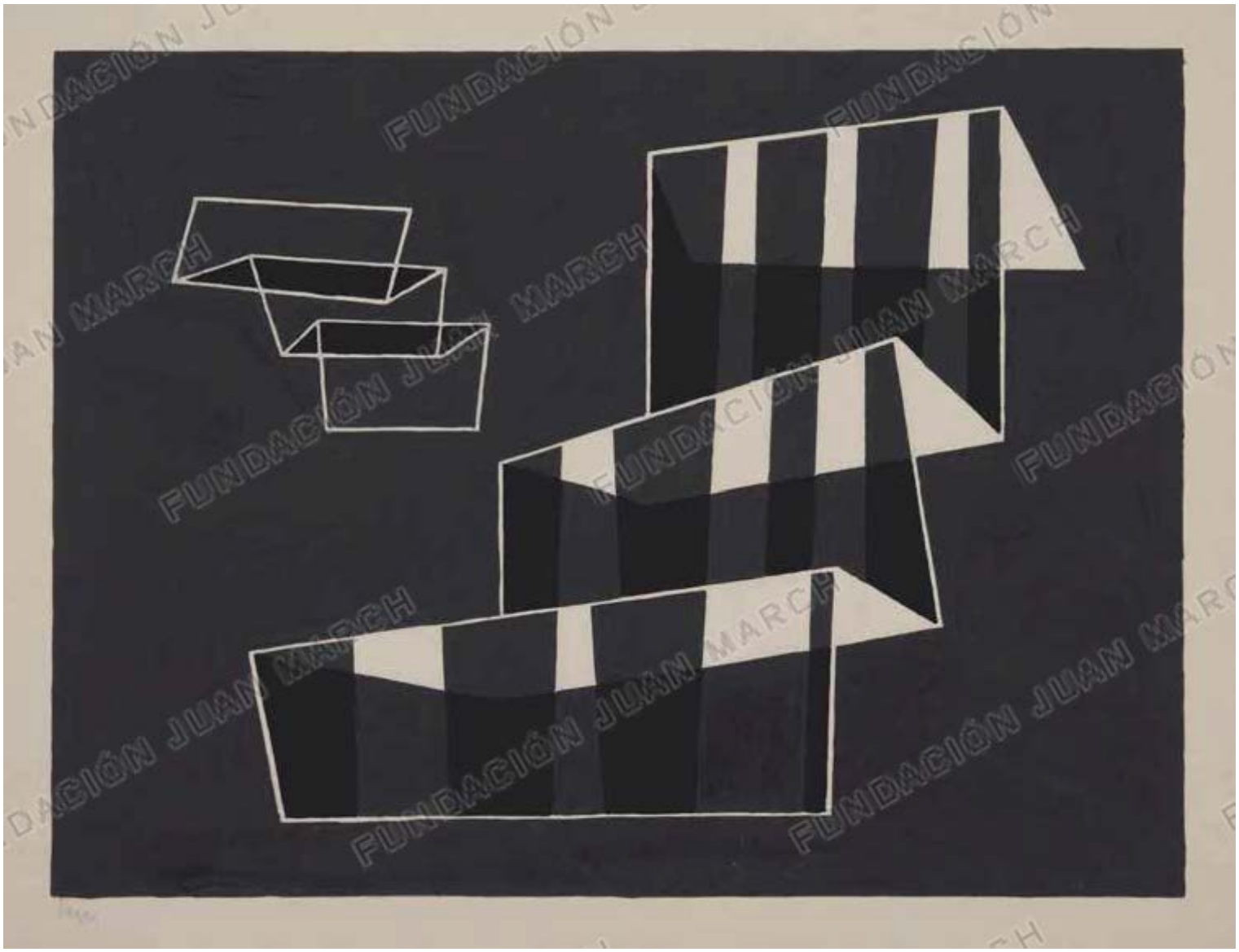
11
*Skyscrapers (B)*, 1929
Glass laminate and paint in artist's metal frame. 14 ¼ x 14 ¼ in (36.2 x 36.2 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. Gift of The Joseph H. Hirshhorn Foundation, 1974



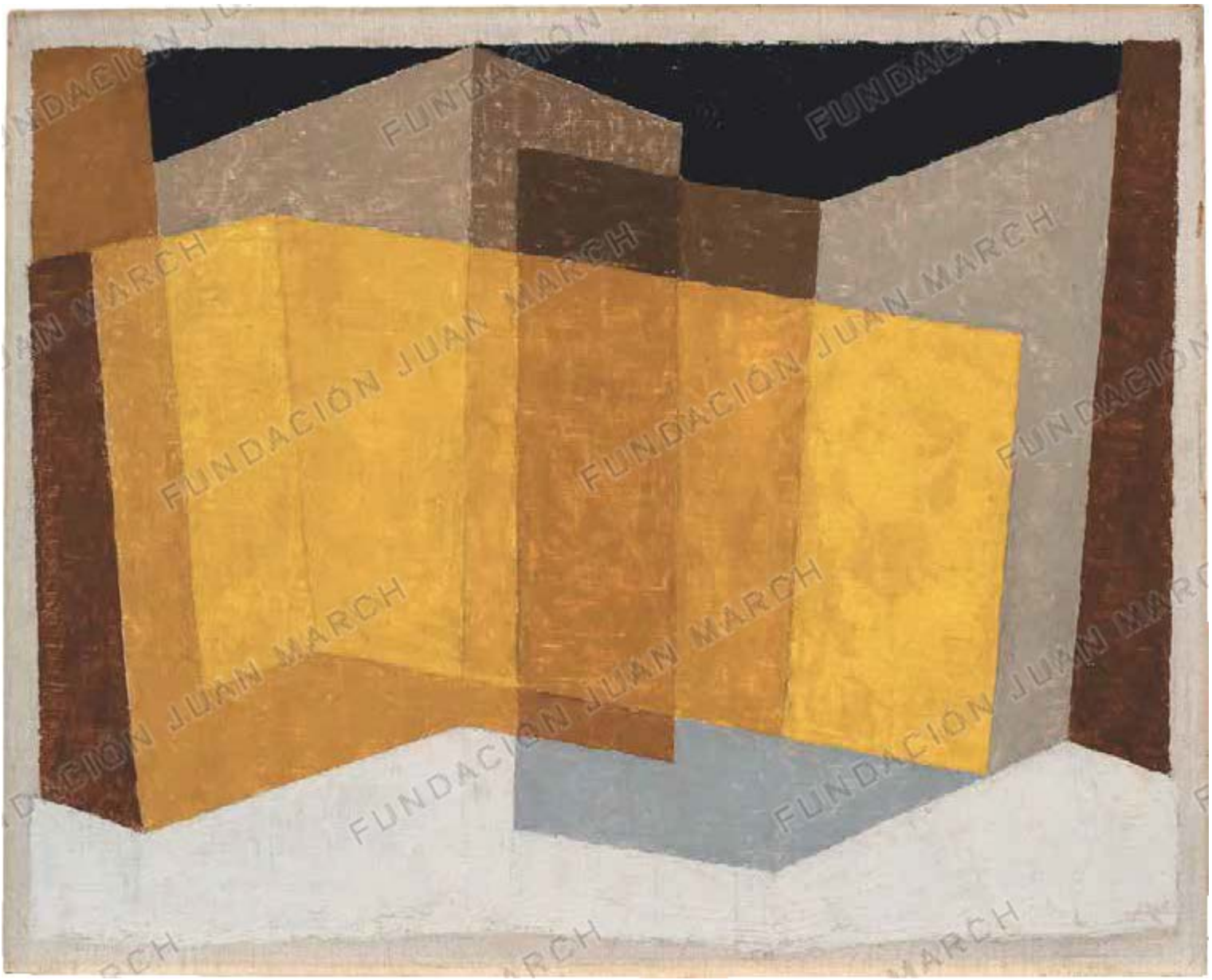
12
*Final Study for "Skyscrapers (A),"* 1929
Gouache on paper. Sheet: 14 ⅛ x 15 ¼ in (35.8 x 38.7 cm). Image: 13 ¼ x 13 ⅛ in (33.6 x 33.3 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. The Joseph H. Hirshhorn Bequest, 1981



13
*Interior A*, 1929
Opaque glass, sandblasted. 13 x 9 ⅞ in (33 x 25 cm)
Josef Albers Museum Quadrat, Bottrop

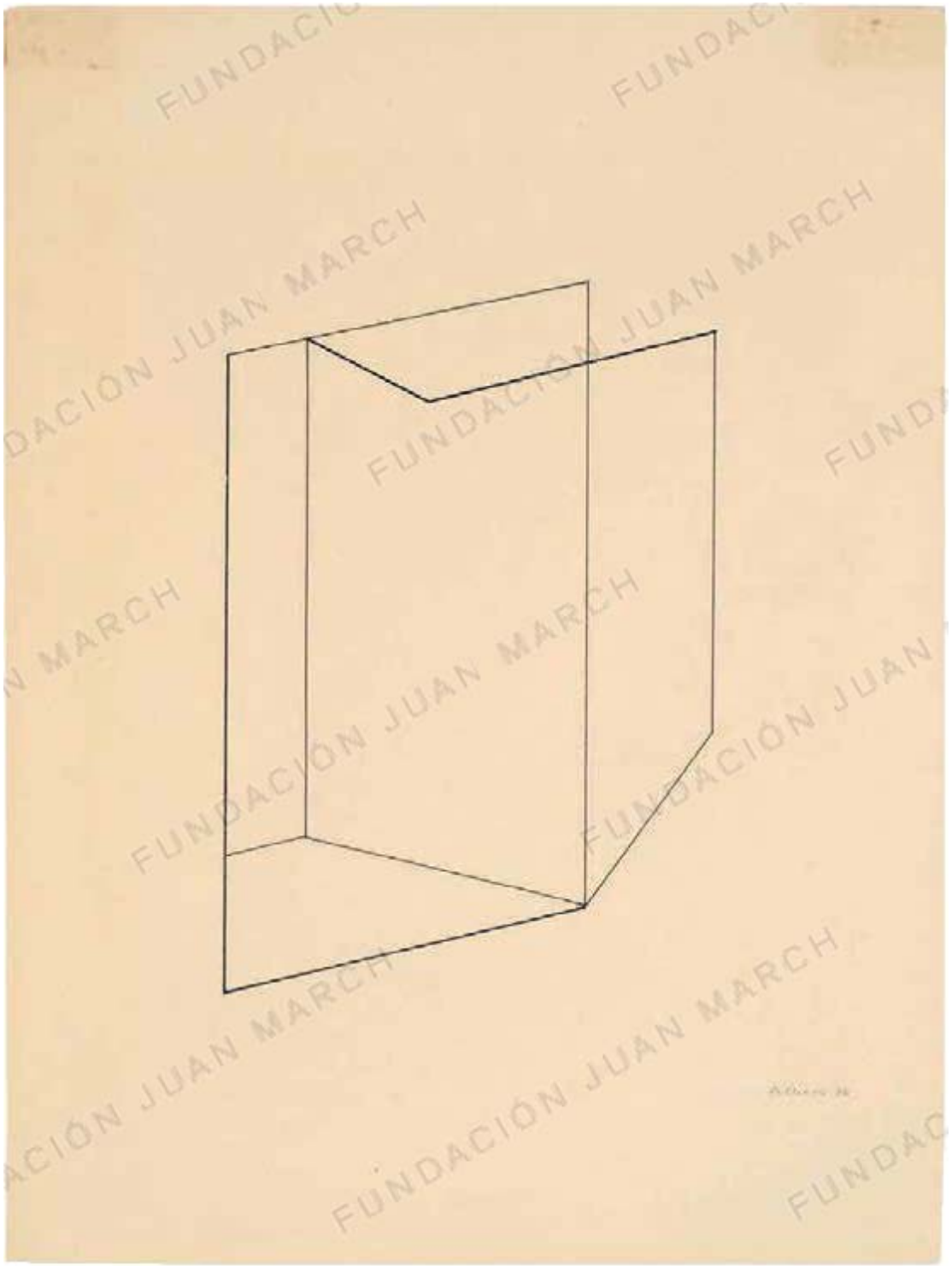


14
*Final Study for "Steps,"* 1931
Gouache and pencil on paper. Sheet: 18 x 23 5/16 in (45.7 x 59.2 cm)
Image: 16 x 21 1/4 in (40.7 x 54 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution,
Washington, D.C. Gift of Joseph H. Hirshhorn, 1966

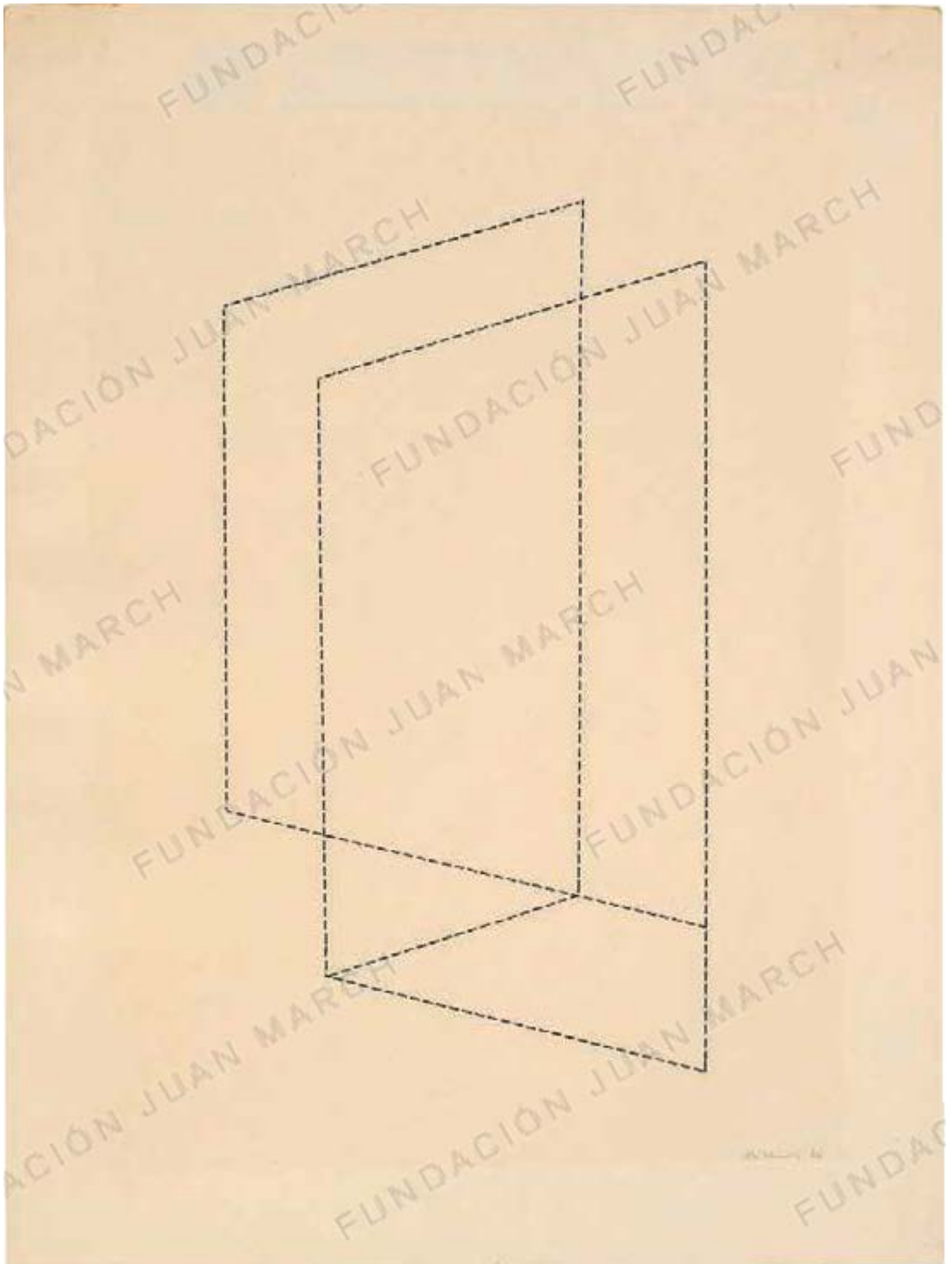


15
*Angular*, 1935
Oil on wood composition board. 16 x 19 ¾ in (40.6 x 50.2 cm)
The Josef and Anni Albers Foundation, Bethany

30
*Open (B)*, 1940
Oil on Masonite. 19 ⅞ x 19 ⅝ in (50.5 x 49.8 cm)
Solomon R. Guggenheim Museum, New York. Estate of Karl Nierendorf, by purchase



17
*Linear Construction*, 1936
Ink on paper. 15 ¾ x 11 ¾ in (40 x 29.8 cm)
The Josef and Anni Albers Foundation, Bethany

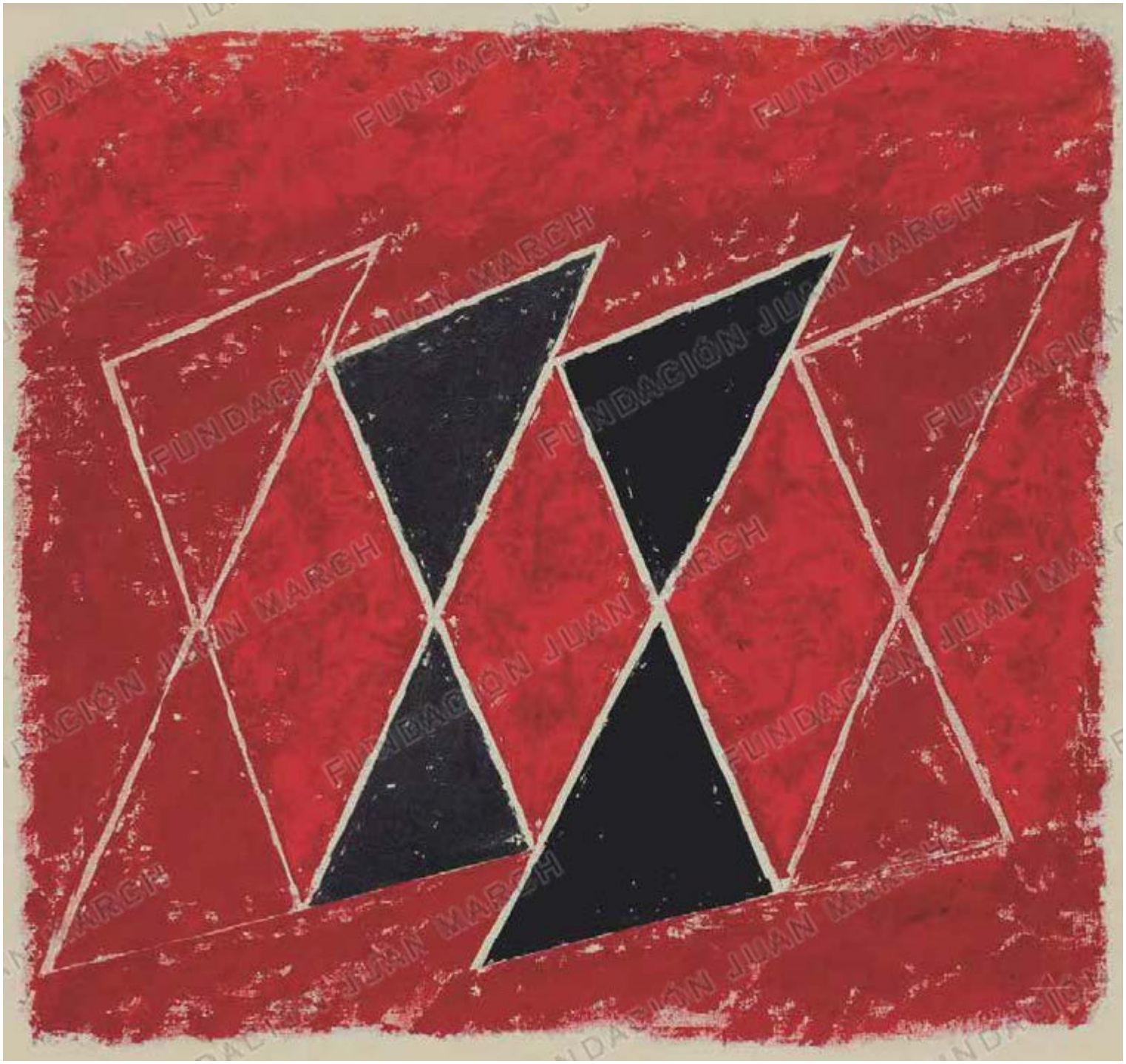


18
*Linear Construction*, 1936
Ink on paper. 15 ¾ x 11 ¾ in (40 x 29.8 cm)
The Josef and Anni Albers Foundation, Bethany

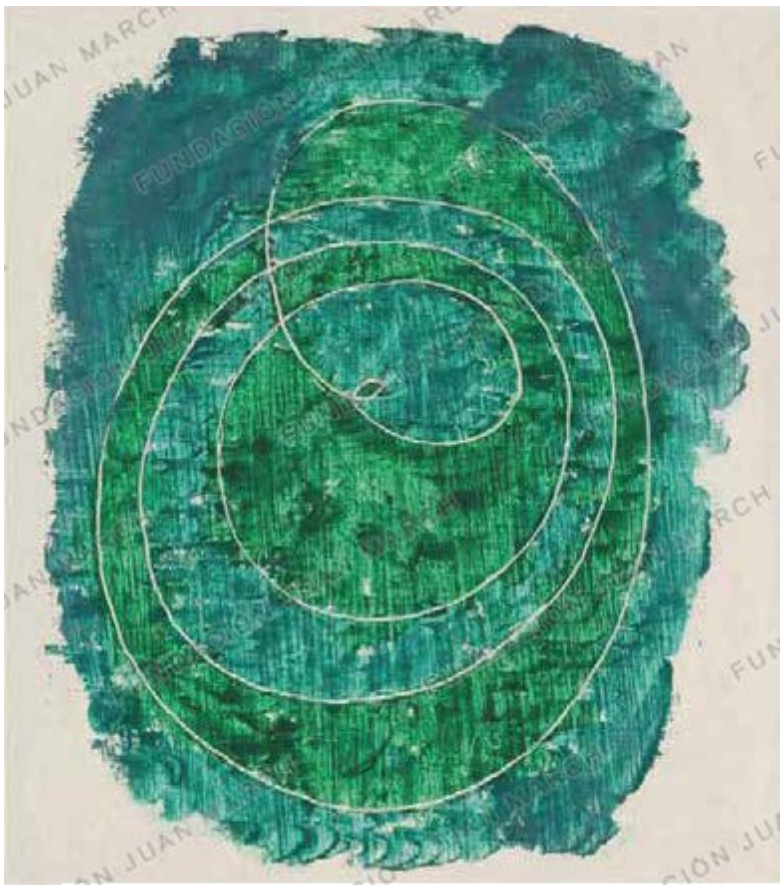
19
*b and p*, 1937
Oil on Masonite. 23 ⅞ x 23 ¾ in (60.6 x 60.3 cm)
Solomon R. Guggenheim Museum, New York. Estate of Karl Nierendorf, by purchase

20
*Related A*, 1937
Oil on Masonite. 23 ⅞ x 17 ¾ in (60.6 x 45 cm)
Guillermo de Osma, Madrid

16
*Gate*, 1936
Oil on Masonite. 19 ½ x 20 3/16 in (49.5 x 51.3 cm)
Yale University Art Gallery, New Haven. Gift of Collection Société Anonyme



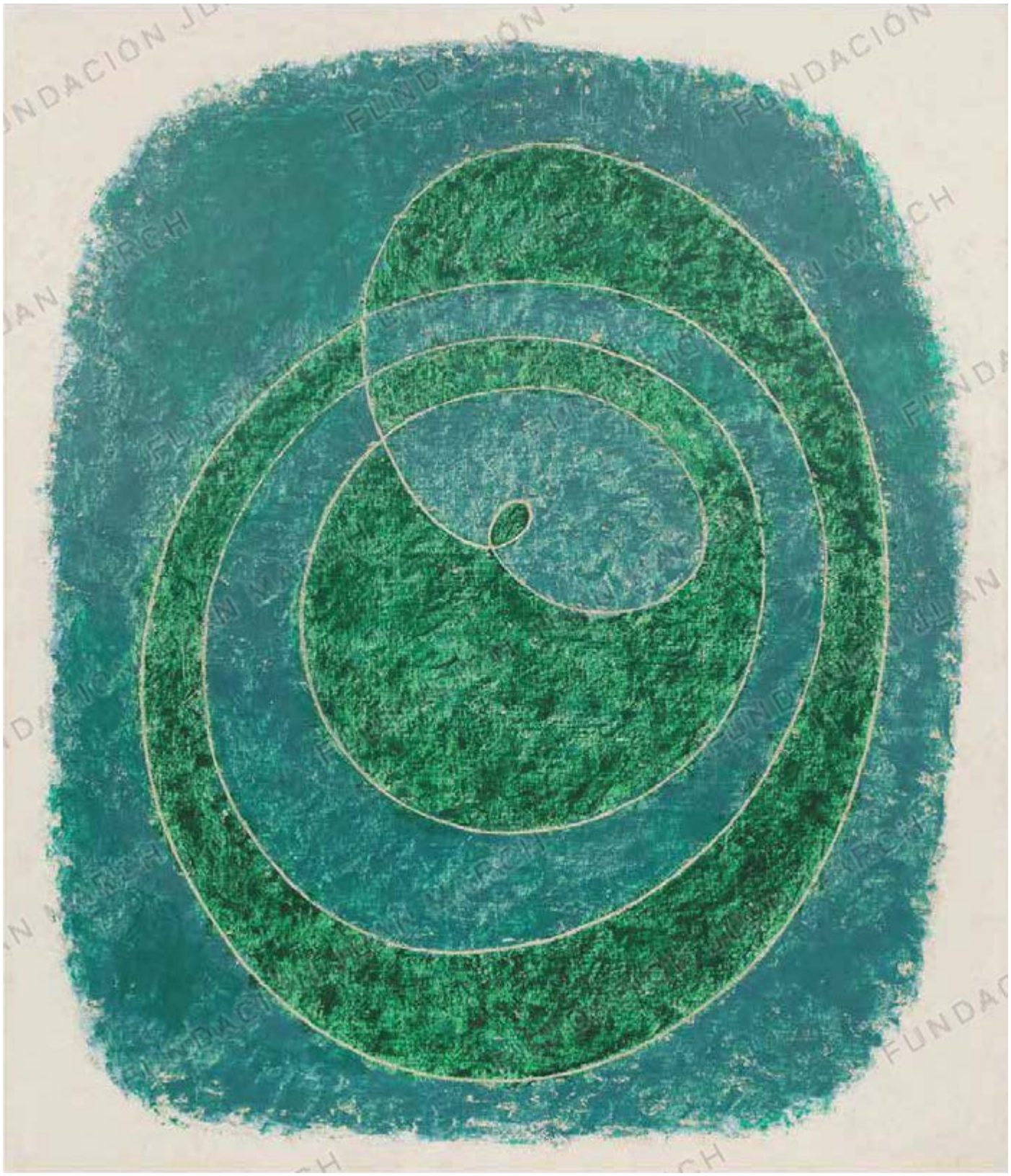
22
*Four Xs in Red*, 1938
Oil on fiberboard. 18 ⅛ x 18 ⅛ in (45.9 x 46 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C.
Gift of The Joseph H. Hirshhorn Foundation, 1974



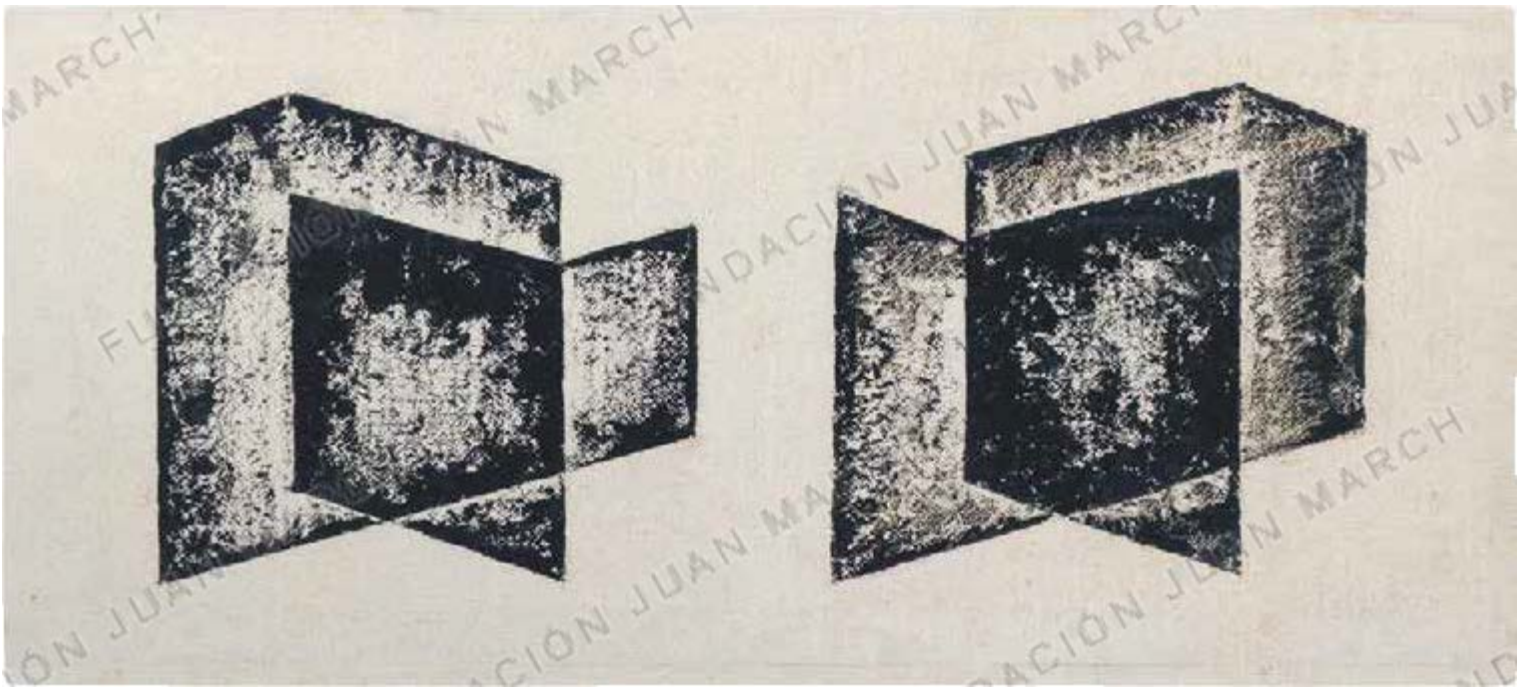
23
*Study No. 1 for "Proto-Form (B),"* 1938
Oil on fiberboard in artist's frame.
11 ⅛ x 9 ⅛ in (28.2 x 23.2 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. Gift of the Joseph H. Hirshhorn Foundation, 1974

24
*Study for "Proto-Form (B, No. 2),"* 1938
Oil on fiberboard in artist's frame.
11 x 9 ⅛ in (27.9 x 23.2 cm) (irreg.)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. Gift of the Joseph H. Hirshhorn Foundation, 1974

25
*Proto-Form (B)*, 1938
Oil on fiberboard in artist's frame.
27 ⅞ x 24 ⅛ in (70.7 x 61.2 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. Gift of Joseph H. Hirshhorn, 1996



26
*Together*, 1939
Oil on Masonite. 20 13/16 x 23 5/16 in (52.8 x 59.8 cm)
Solomon R. Guggenheim Museum, New York. Gift, The Josef Albers Foundation, Inc., 1991

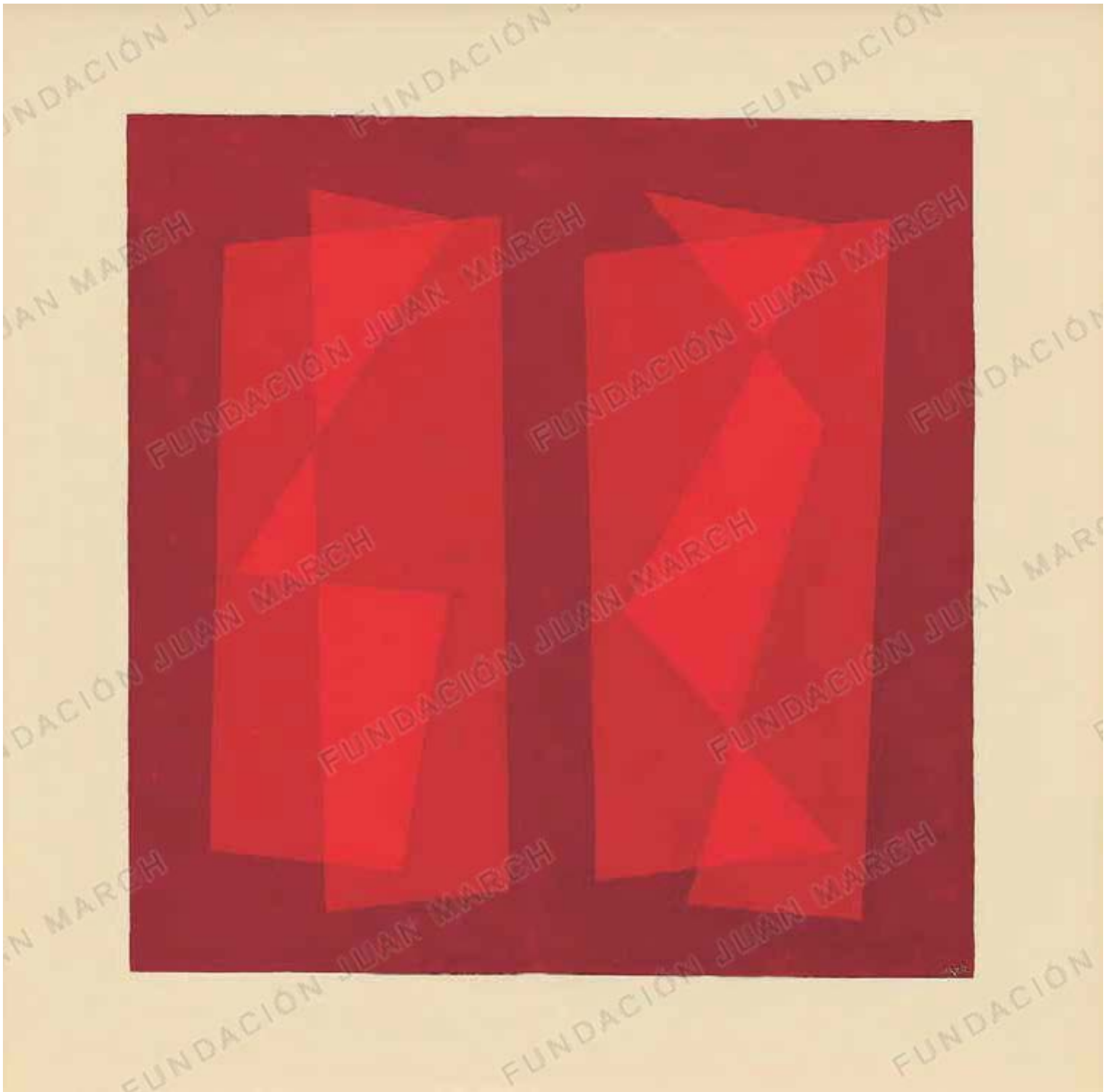


27
*Study for Equal and Unequal*, 1939
Oil on Masonite. 11 x 26 in (27.9 x 66 cm)
The Josef and Anni Albers Foundation, Bethany

28
*Study for Construction in Red-Blue-Black*, 1939–1940
Oil on Masonite. 18 ½ x 16 9/16 in (47 x 42.1 cm)
Yale University Art Gallery, New Haven. Gift of Anni Albers and The Josef Albers Foundation, Inc.

21
*Penetrating (A)*, 1938
Oil on Masonite. 30 x 26 in (76.2 x 66 cm)
The Josef and Anni Albers Foundation, Bethany

29
*Bent Black (A)*, 1940
Oil on Masonite. 37 ½ x 27 ¾ in (95.3 x 70.5 cm)
Addison Gallery of American Art, Andover. Gift of Mrs. Frederick E. Donaldson

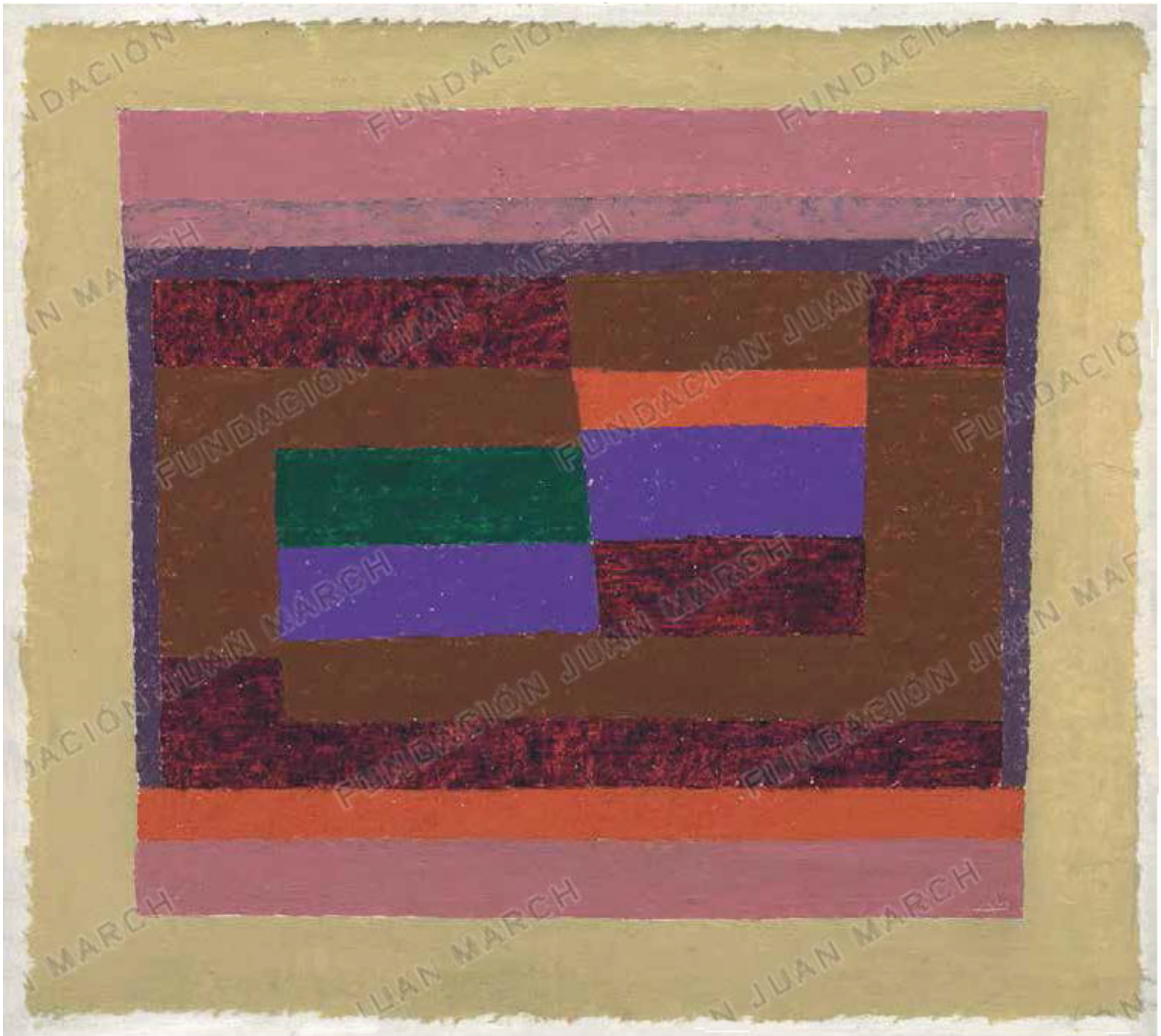


31
*Cadence,* 1940
Oil on Masonite. 28 7/16 x 28 3/16 in (72.3 x 71.6 cm)
Yale University Art Gallery, New Haven. Gift of Anni Albers and The Josef Albers Foundation, Inc.

32
*Oscillating (C)*, 1940–1945
Oil on Masonite. 27 x 24 in (68.6 x 61 cm)
The Josef and Anni Albers Foundation, Bethany

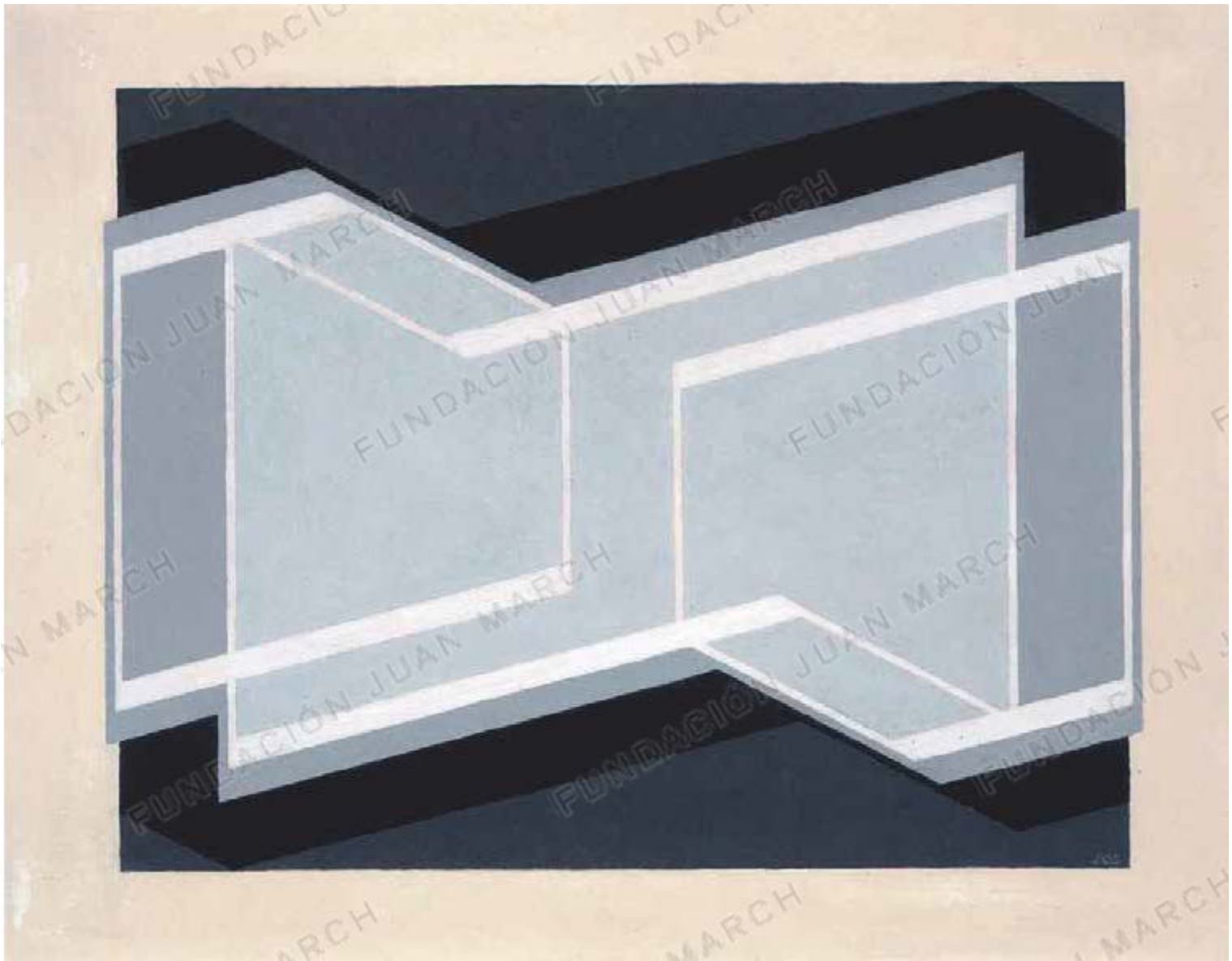
33
*To Mitla*, 1940
Oil on Masonite. 21 x 28 in (53.3 x 71.1 cm)
The Josef and Anni Albers Foundation, Bethany

34
*Layered*, 1940
Oil on Masonite. 23 ½ x 28 in (59.7 x 71.1 cm)
The Josef and Anni Albers Foundation, Bethany

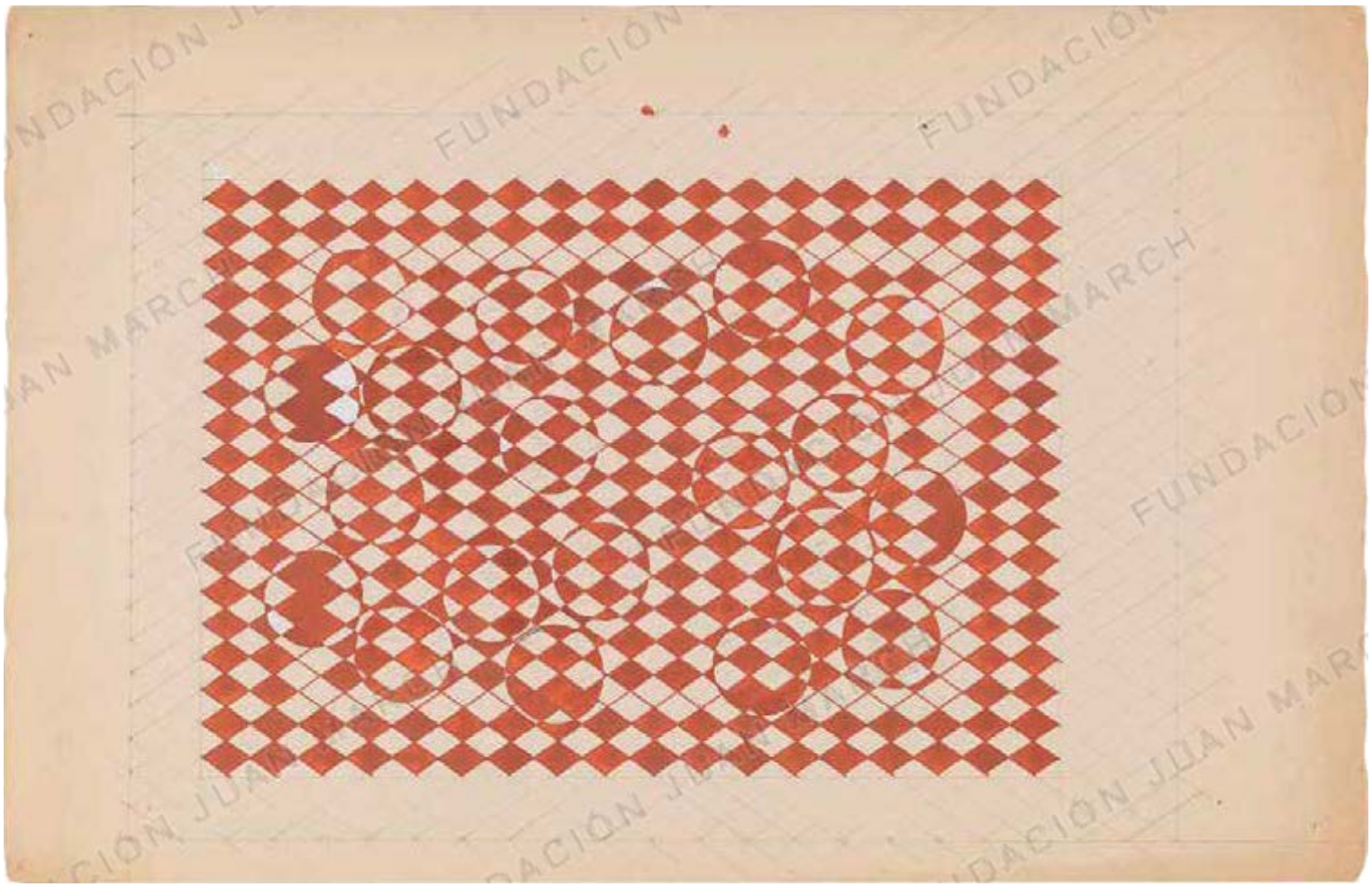


35
*Memento,* 1943
Oil on Masonite. 18 ½ x 20 ⅝ in (47.1 x 52.4 cm)
Solomon R. Guggenheim Museum, New York. Estate of Karl Nierendorf, by purchase

36
*Modified Repetition,* 1943
Oil on Masonite. 15 ½ x 25 ½ in (39.4 x 64.8 cm)
The Josef and Anni Albers Foundation, Bethany

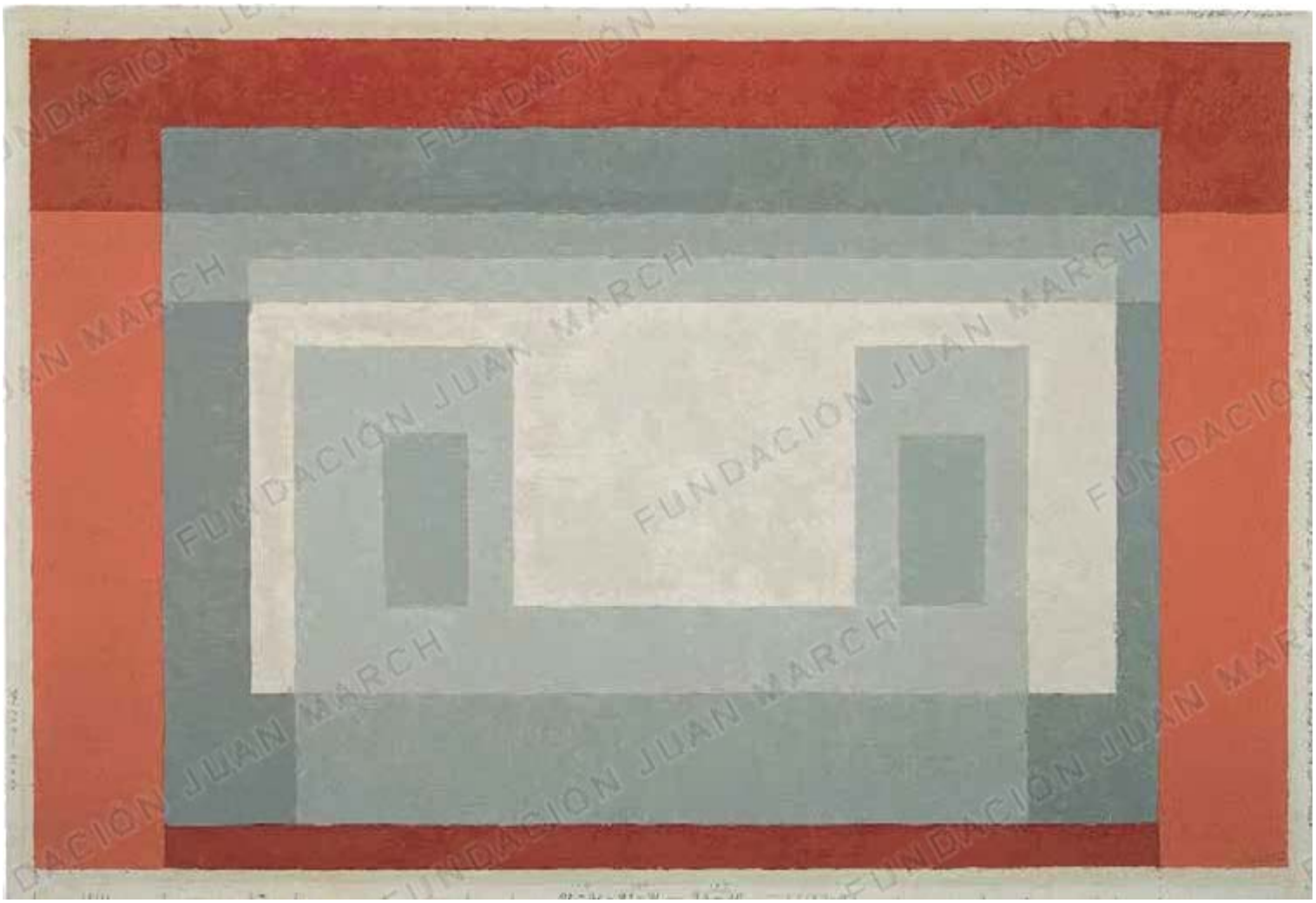


37
*Kinetic VII*, 1945
Oil on Masonite. 22 x 28 in (56 x 71.1 cm)
Josef Albers Museum Quadrat, Bottrop

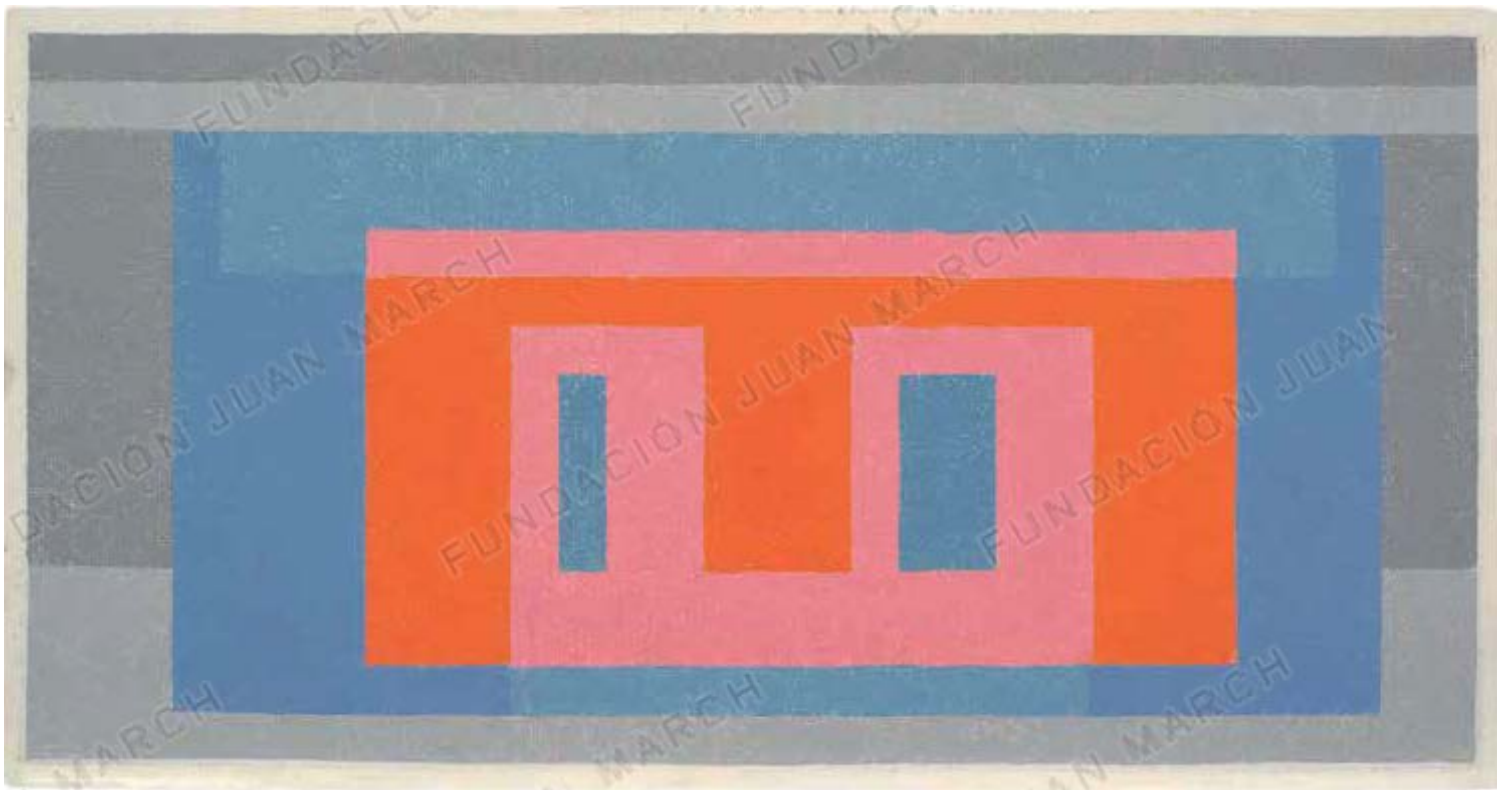


38
*Untitled Abstraction V*, ca. 1945
Graphite and gouache on paper. 6 ⅜ x 9 ⅞ in (16.2 x 25.1 cm)
Tate, London. Presented by The Josef and Anni Albers Foundation
in honor of Achim Borchardt-Hume, 2006

39
*Orange, Pink against Crimson, Dark Gray*, 1947
Oil on Masonite. 12 x 18 in (30.5 x 45.7 cm)
The Josef and Anni Albers Foundation, Bethany

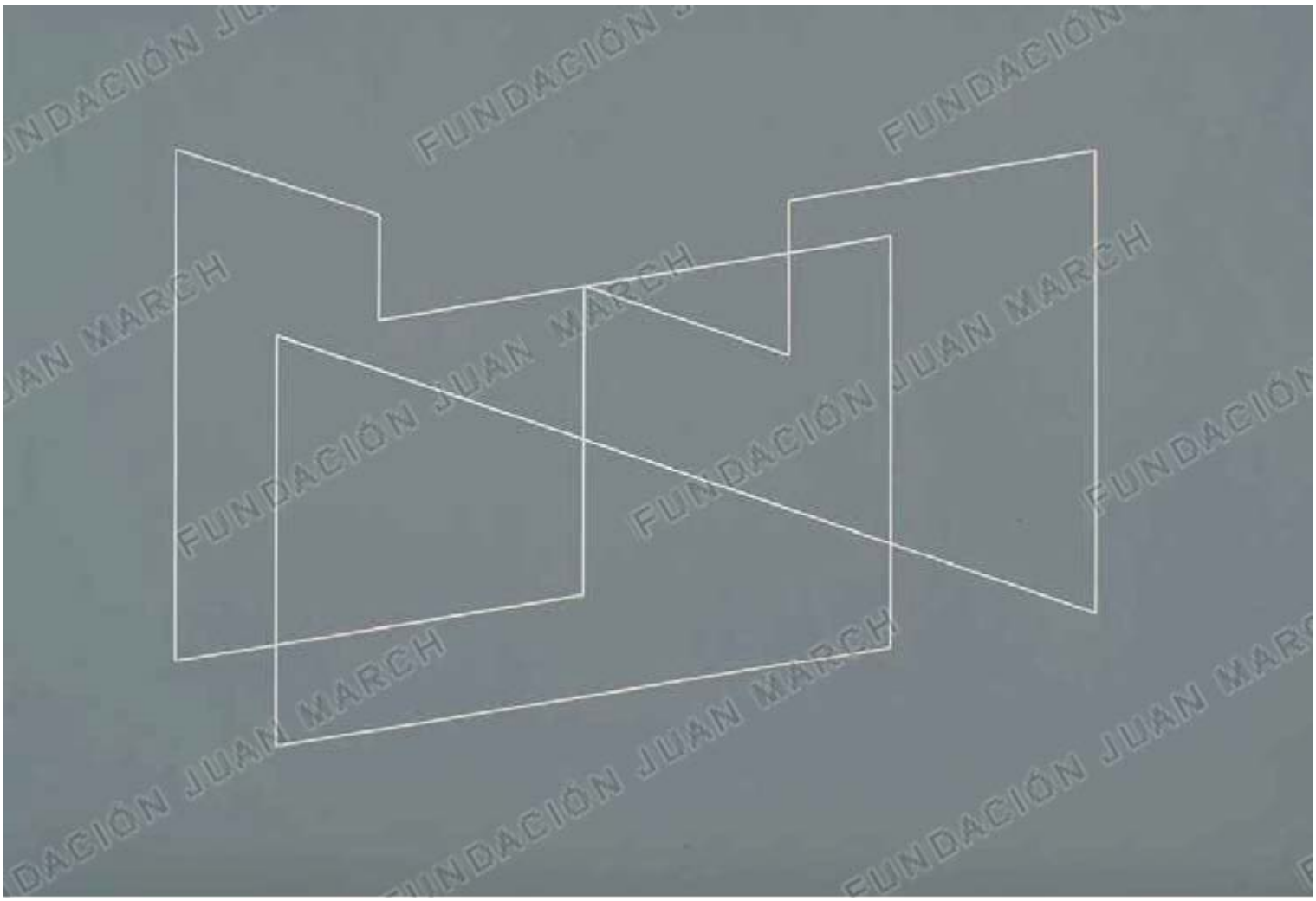


42
*Casa Blanca B* [White House B], 1947–1954
Oil on cardboard. 16 ¼ x 23 ⅞ in (41.3 x 60.7 cm)
Museo Thyssen-Bornemisza, Madrid



40
*Luminous Day*, 1947–1952
Oil on Masonite. 11 x 21 in (27.9 x 53.3 cm)
The Josef and Anni Albers Foundation, Bethany

41
*Variant/Adobe*, 1947–1952
Oil on Masonite. 14 x 27 in (35.6 x 68.6 cm)
The Josef and Anni Albers Foundation, Bethany



43
*Structural Constellation: Structural Indication*, 1948
Machine-engraved gray plastic laminate mounted on wood. 18 x 26 in (45.7 x 66 cm)
The Josef and Anni Albers Foundation, Bethany

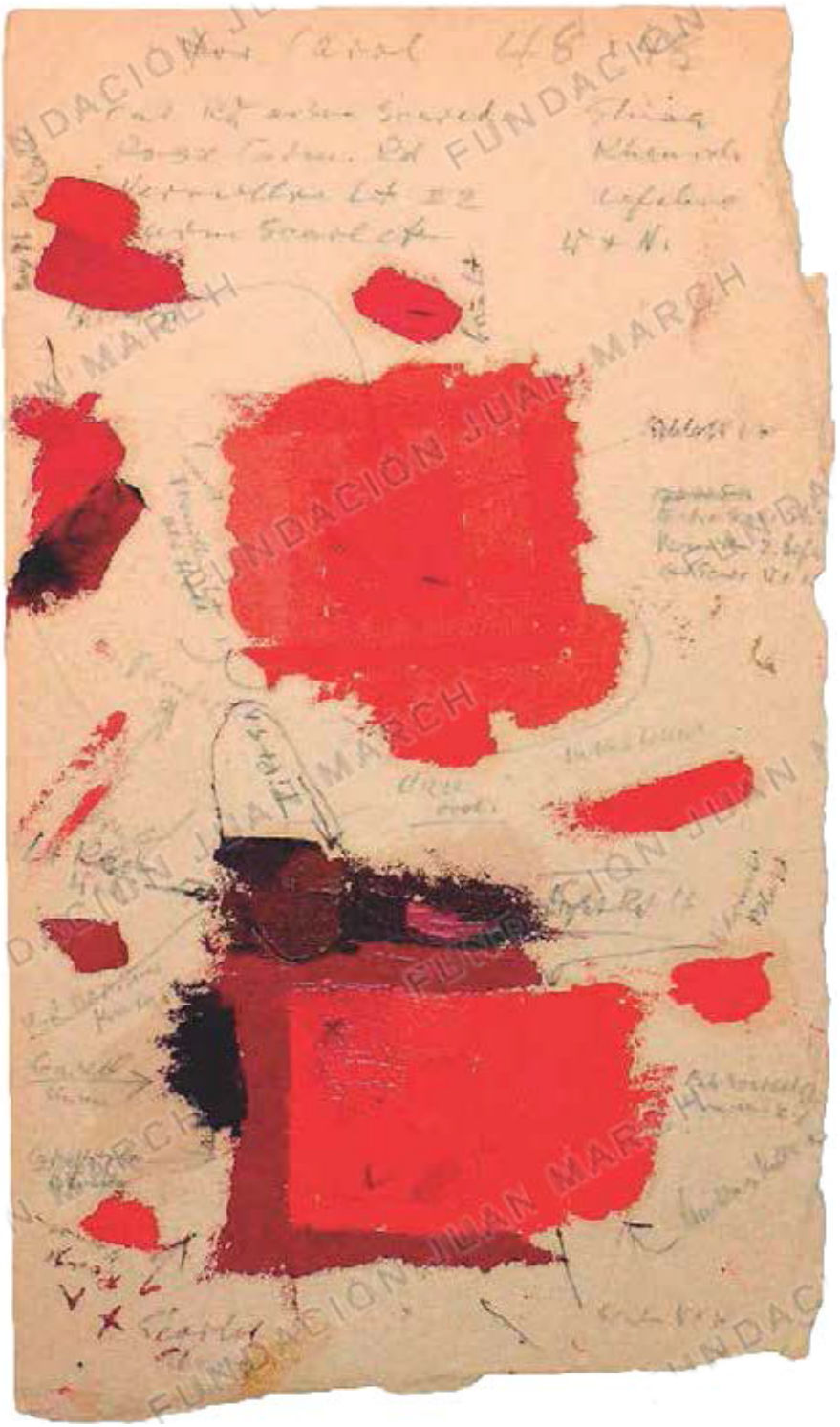
44
*Study for Indicating Solids*, 1949–1952
Oil on wood composition board. 12 x 11 in (30.5 x 27.9 cm)
The Josef and Anni Albers Foundation, Bethany

45
*Color Study,* n.d.
Oil on cardboard. 5 x 11 ⅜ in (12.7 x 28.9 cm)
The Josef and Anni Albers Foundation, Bethany

46
*Two Color Studies for Homage to the Square*, n.d.
Oil on blotting paper. 4 ⅞ x 11 ⅝ in (12.4 x 29.5 cm)
The Josef and Anni Albers Foundation, Bethany

47
*Color Study*, n.d.
Oil on blotting paper. 4 ¾ x 9 ½ in (12.1 x 24.1 cm)
The Josef and Anni Albers Foundation, Bethany

48
*Three Color Studies for Homage to the Square*, n.d.
Oil on blotting paper. 8 ¼ x 18 ¾ in (21 x 47.6 cm)
The Josef and Anni Albers Foundation, Bethany



49
*Two Color Studies for Homage to the Square*, n.d.
Oil on blotting paper. 10 ⅛ x 6 in (25.7 x 15.2 cm)
The Josef and Anni Albers Foundation, Bethany

50
*Study for Homage to the Square with Color Study*, n.d.
Oil on blotting paper.
11 3/8 x 11 7/16 in (28.9 x 29.1 cm)
The Josef and Anni Albers Foundation, Bethany

53
*Color Study for Homage to the Square*, n.d.
Oil on blotting paper. 13 ⅛ x 7 ¼ in (33.3 x 18.4 cm)
The Josef and Anni Albers Foundation, Bethany

52
*Color Study for Homage to the Square*, n.d.
Oil on blotting paper. 13 ¼ x 4 15/16 in (33.7 x 12.5 cm)
The Josef and Anni Albers Foundation, Bethany

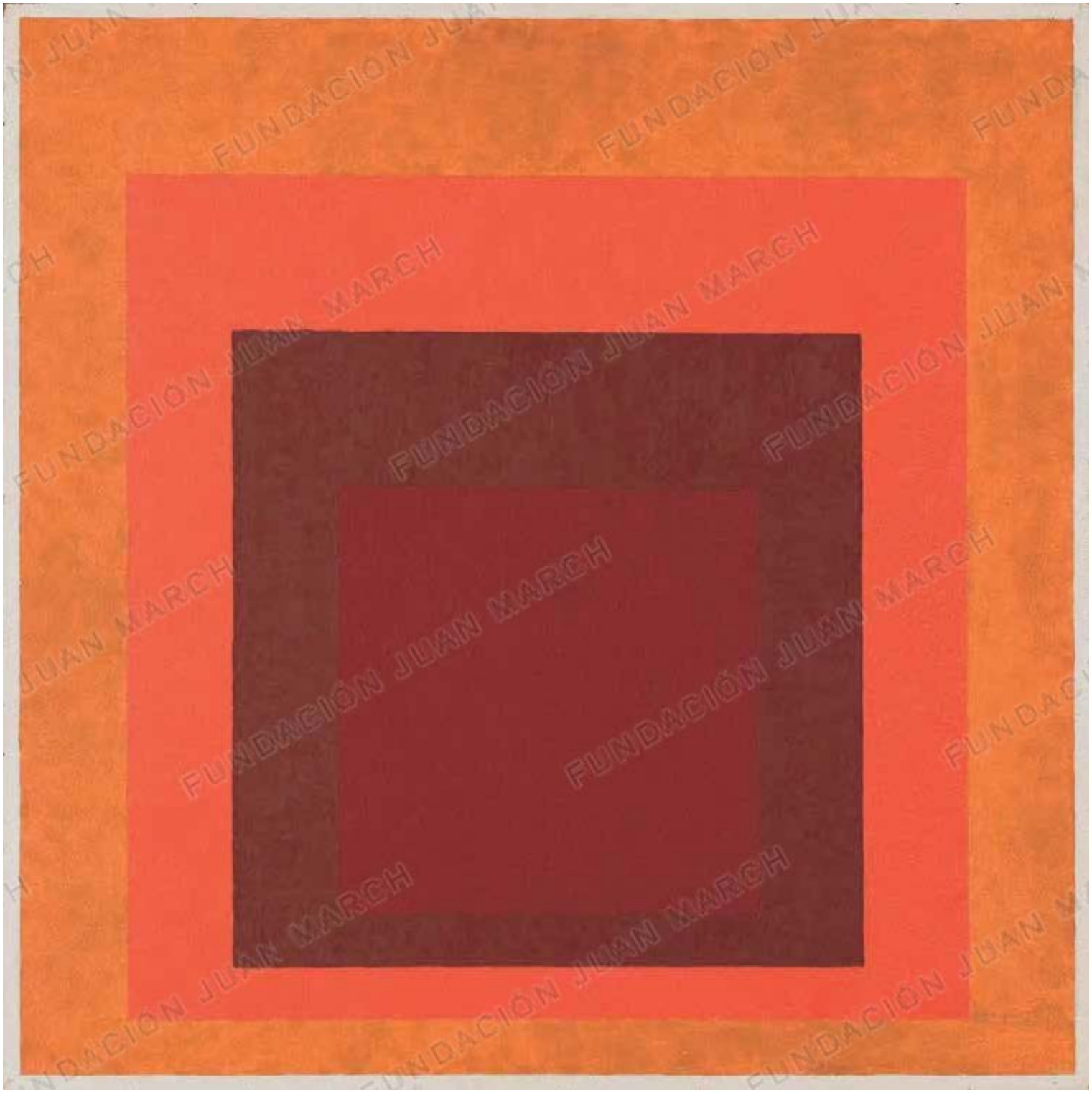
51
*Color Study for Homage to the Square*, n.d.
Oil on blotting paper. 13 ⅛ x 5 ¹⁄₁₆ in (33.3 x 12.9 cm)
The Josef and Anni Albers Foundation, Bethany

54
*Color Study*, n.d.
Gouache on paper. 5 ⅛ x 9 ¹¹⁄₁₆ in (13 x 24.6 cm)
The Josef and Anni Albers Foundation, Bethany

56
*Homage to the Square*, 1950–1954
Oil on Masonite. 12 x 12 in (30.5 x 30.5 cm)
The Josef and Anni Albers Foundation, Bethany

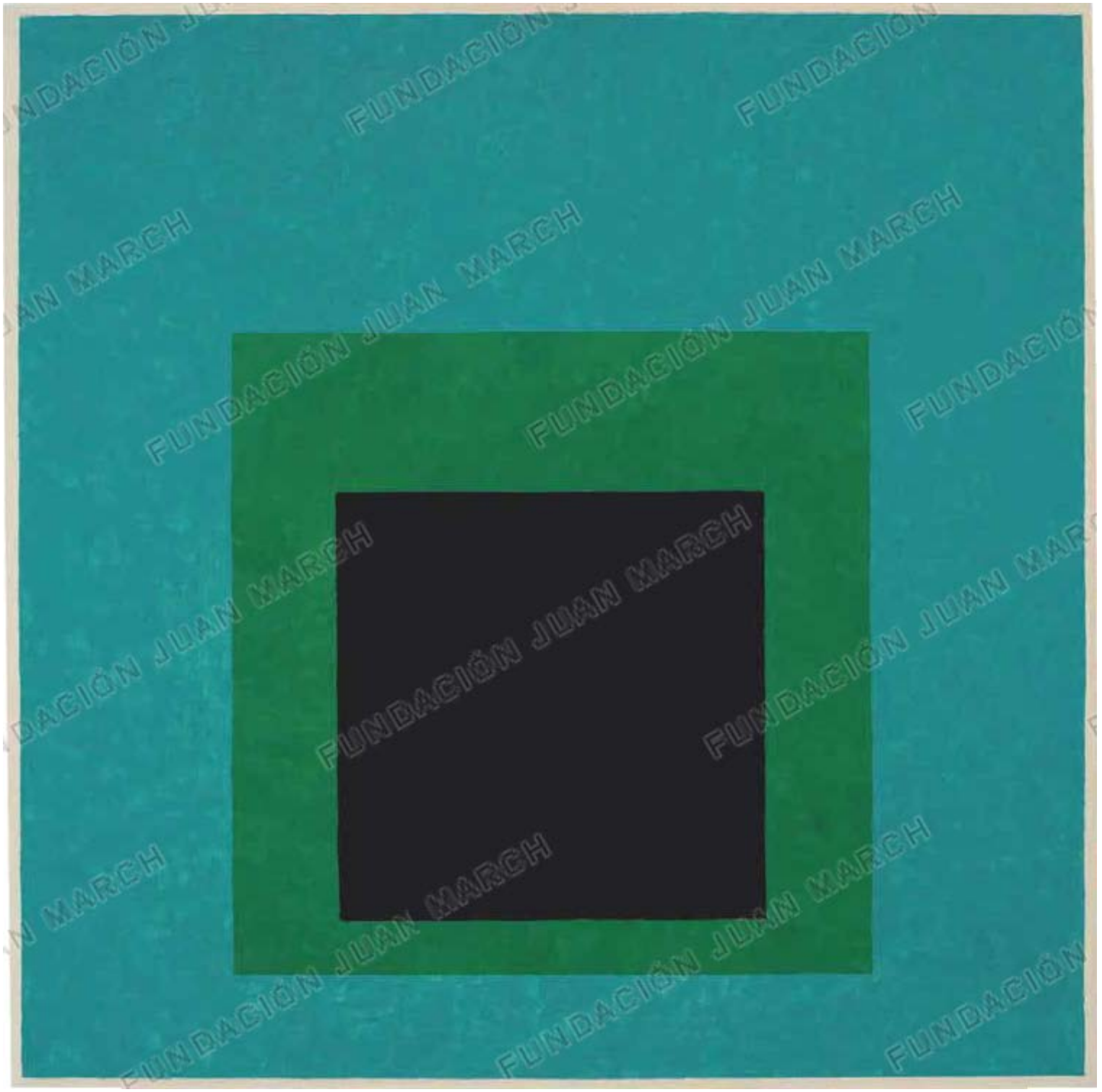
55
*Homage to the Square*, 1950
Oil on Masonite. 20 ⅝ x 20 ½ in (52.4 x 52 cm)
Yale University Art Gallery, New Haven. Gift of Anni Albers and The Josef Albers Foundation, Inc.

64
*Homage to the Square: Affectionate,* 1954
Oil on Masonite. 31 ⅞ x 31 ⅞ in (81 x 81 cm)
Centre Pompidou, Musée National d'Art Moderne / Centre de création
industrielle, Paris. Purchase by the State, 1967. Presented to the Centre Pompidou, 11/09/1976



58
*Homage to the Square: Study for Nocturne*, 1951
Oil paint on wood composition board. 21 x 20 15/16 in (53.4 x 53.2 cm)
Tate, London. Presented by The Josef and Anni Albers Foundation, 2006

59
*Homage to the Square: Saturated*, 1951
Oil on Masonite. 23 ¼ x 23 ⅜ in (59 x 59.3 cm)
Yale University Art Gallery, New Haven. Bequest of Katharine Ordway



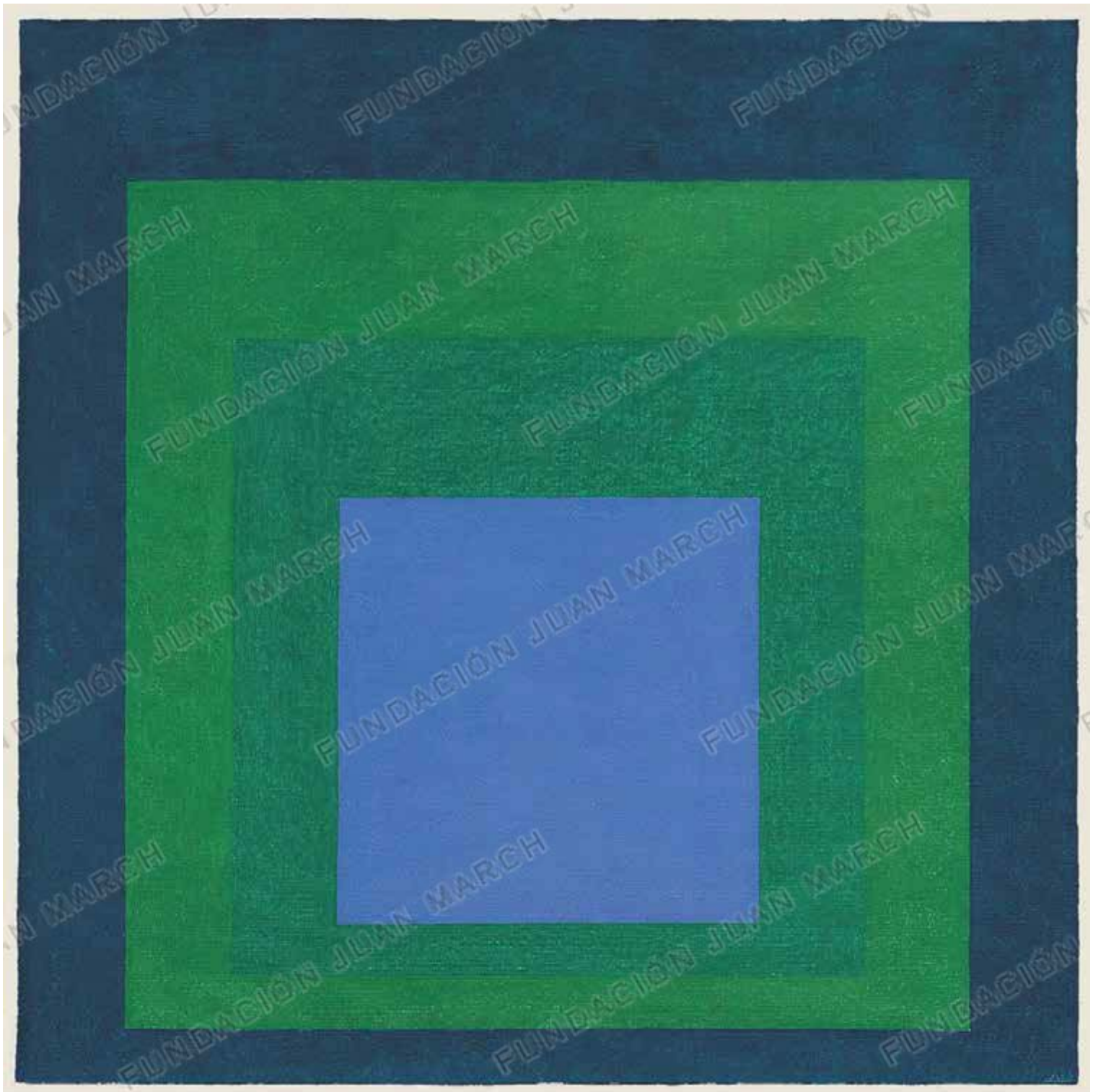
57
*Homage to the Square*, n.d.
Oil on Masonite. 24 x 24 in. (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany

62
*Advancing Spring [Homage to the Square]*, 1952
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
The Josef and Anni Albers Foundation, Bethany

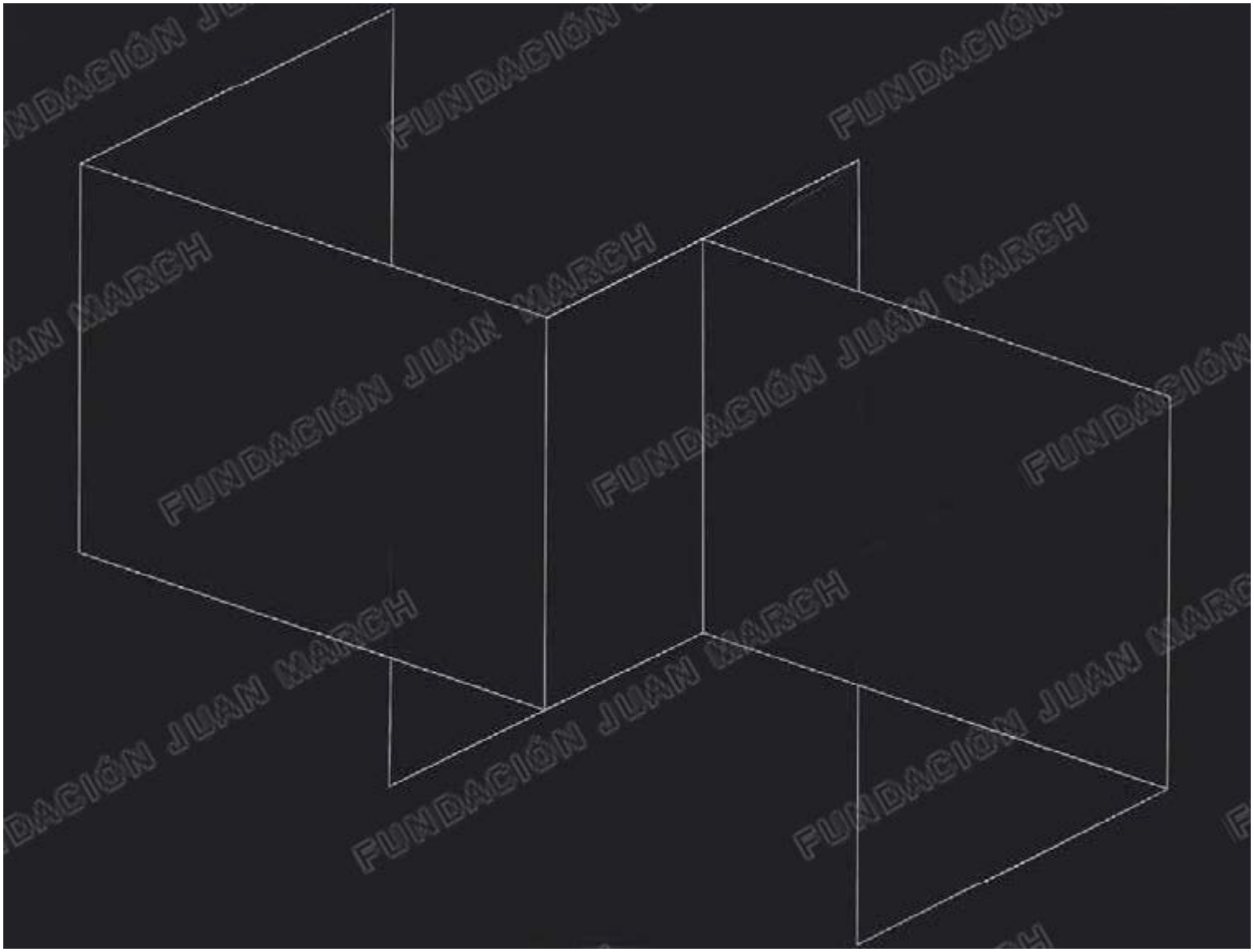
61
*Homage to the Square: Decided*, 1951
Oil on Masonite. 32 x 32 in (81.3 x 81.3 cm)
The Josef and Anni Albers Foundation, Bethany

60
*Homage to the Square: Precinct*, 1951
Oil on Masonite. 31 ¾ x 31 ¾ in (80.6 x 80.6 cm)
The Metropolitan Museum of Art, New York. George A. Hearn Fund, 1953

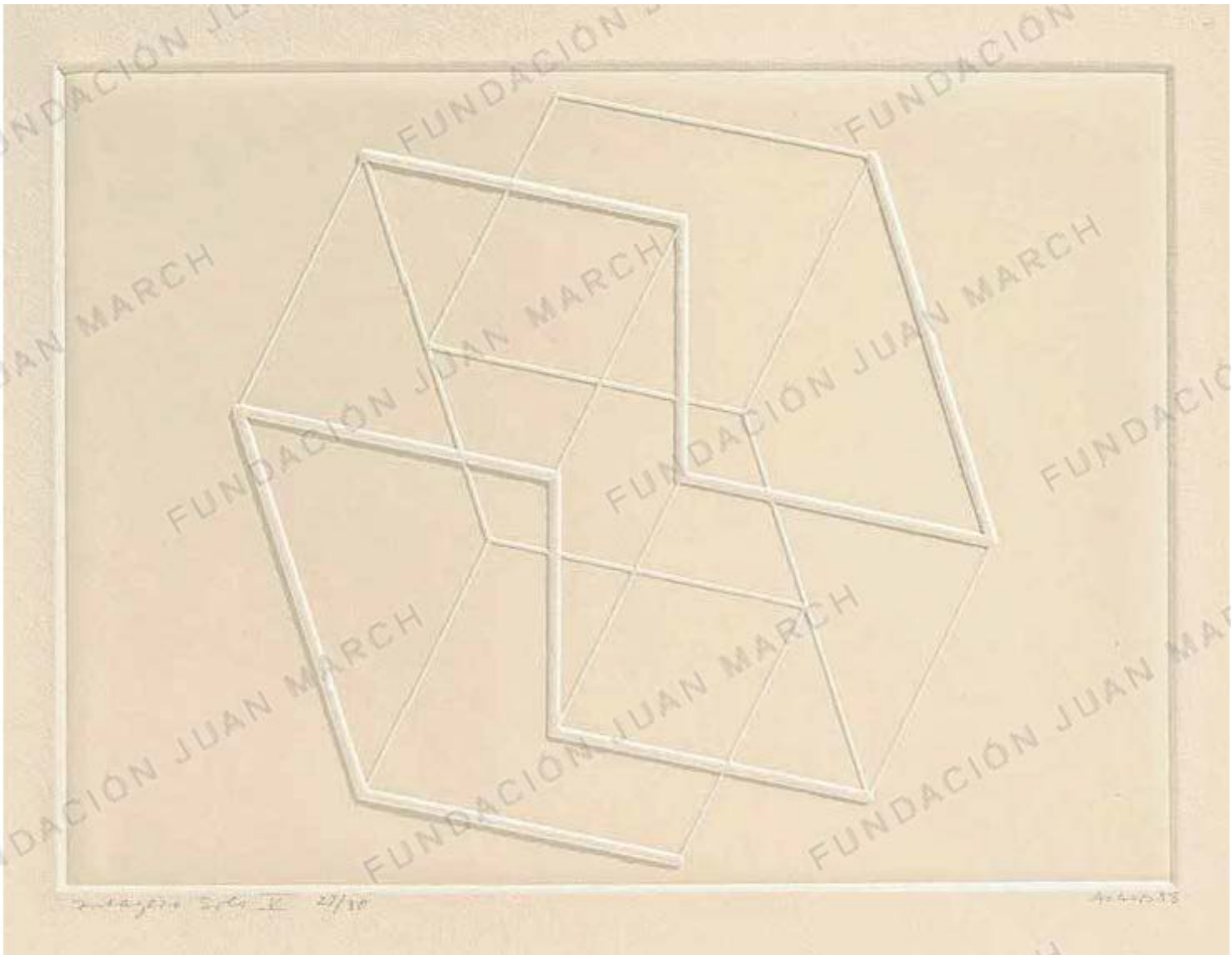
68
*Homage to the Square: Aqueous*, 1957
Oil on Masonite. 23 ⅝ x 23 ⅝ in (60 x 60 cm)
Private collection. Courtesy Galería Elvira González



69
*Homage to the Square: Contrasting Blues. Blue Square*, 1958
Oil on Masonite. 31 ⅞ x 31 ⅞ in (81 x 81 cm)
Private collection, Madrid

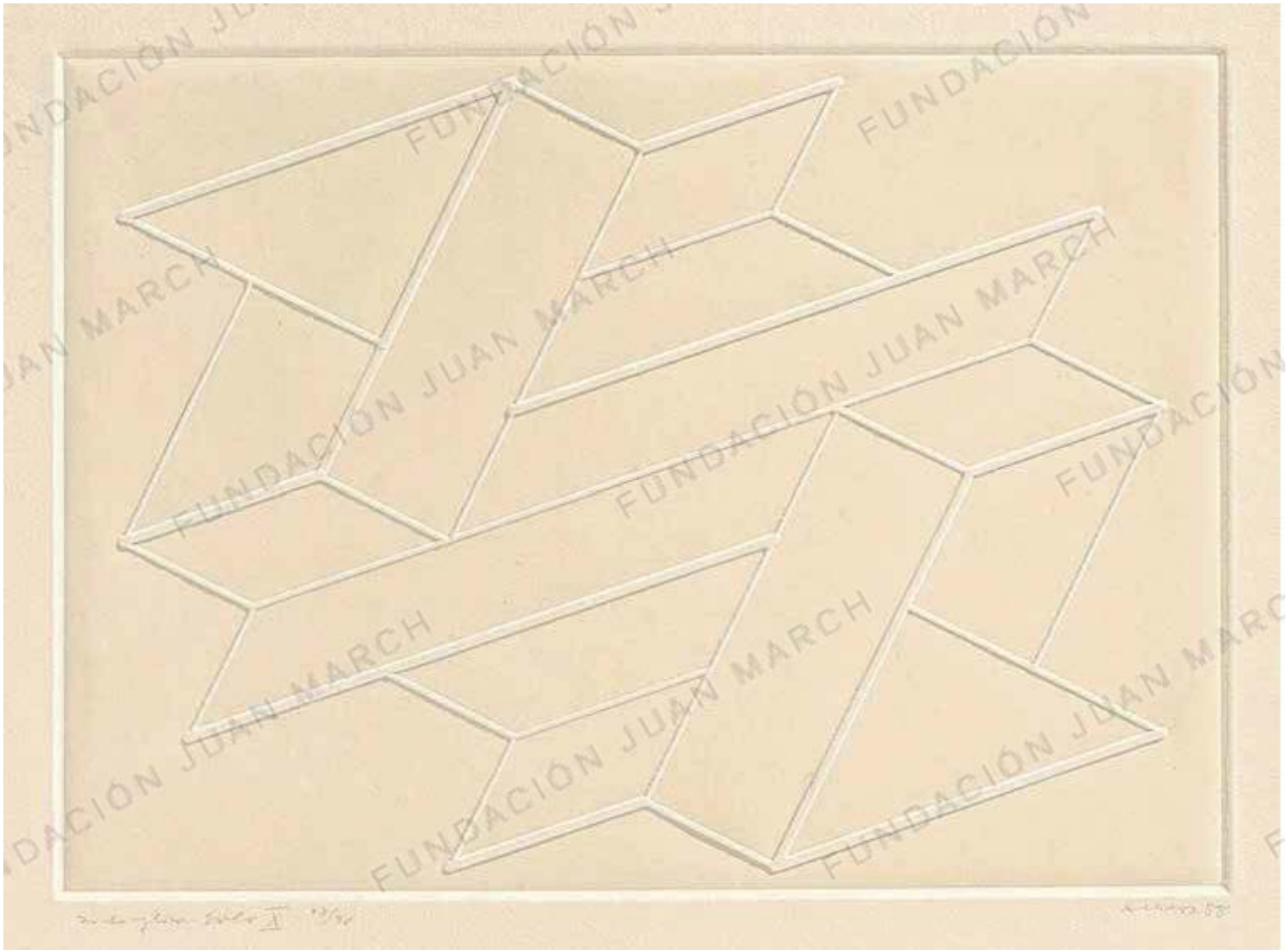


65
*Structural Constellation P-3*, 1954
Machine-engraved black plastic laminate mounted on wood. 17 x 22 ½ in (43.2 x 57.2 cm)
The Josef and Anni Albers Foundation, Bethany



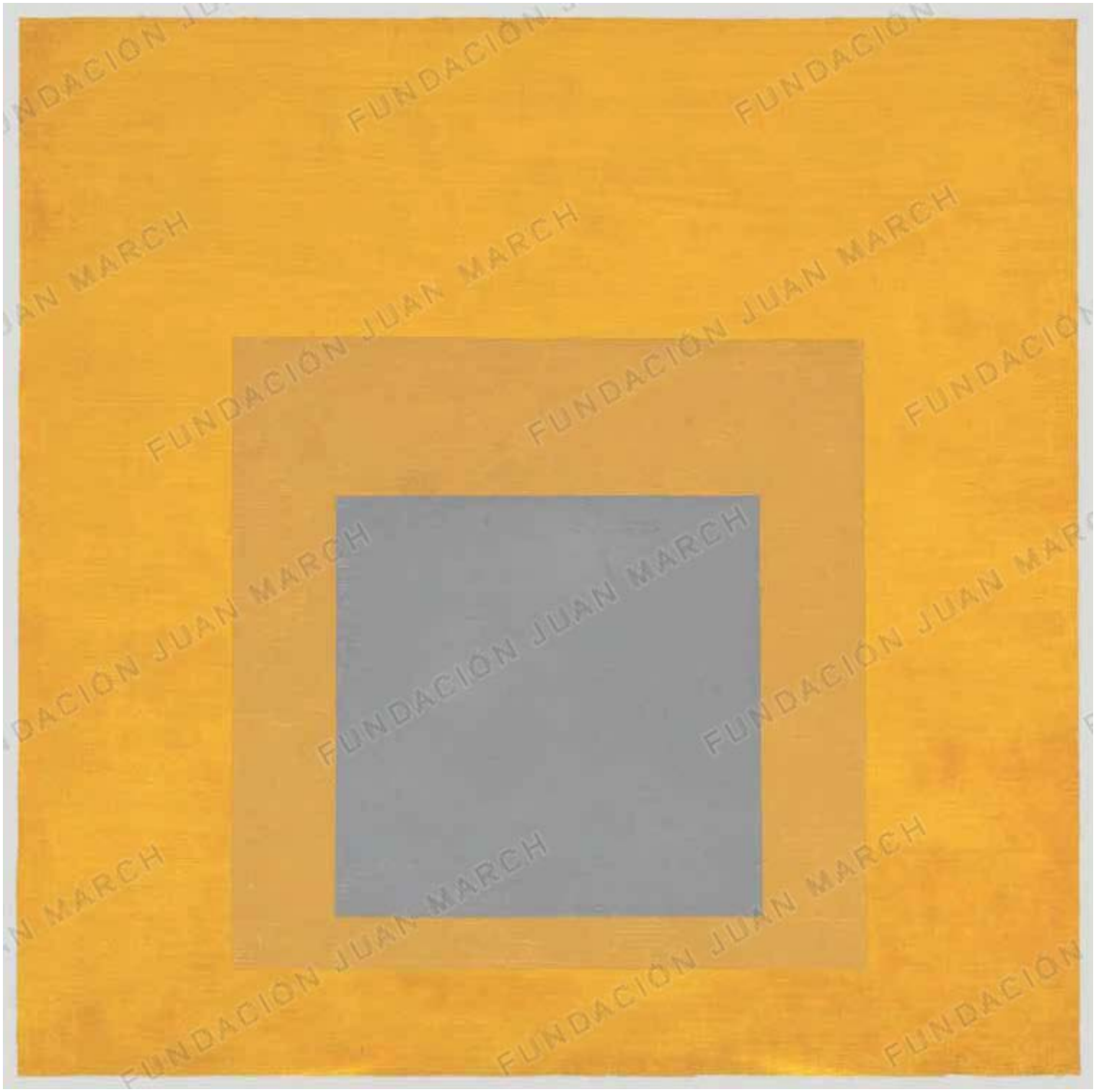
70
*Intaglio Solo V (27/30)*, 1958
Inkless intaglio from vinylite plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany

71
*Intaglio Solo VIII (14/30)*, 1958
Inkless intaglio from brass plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany

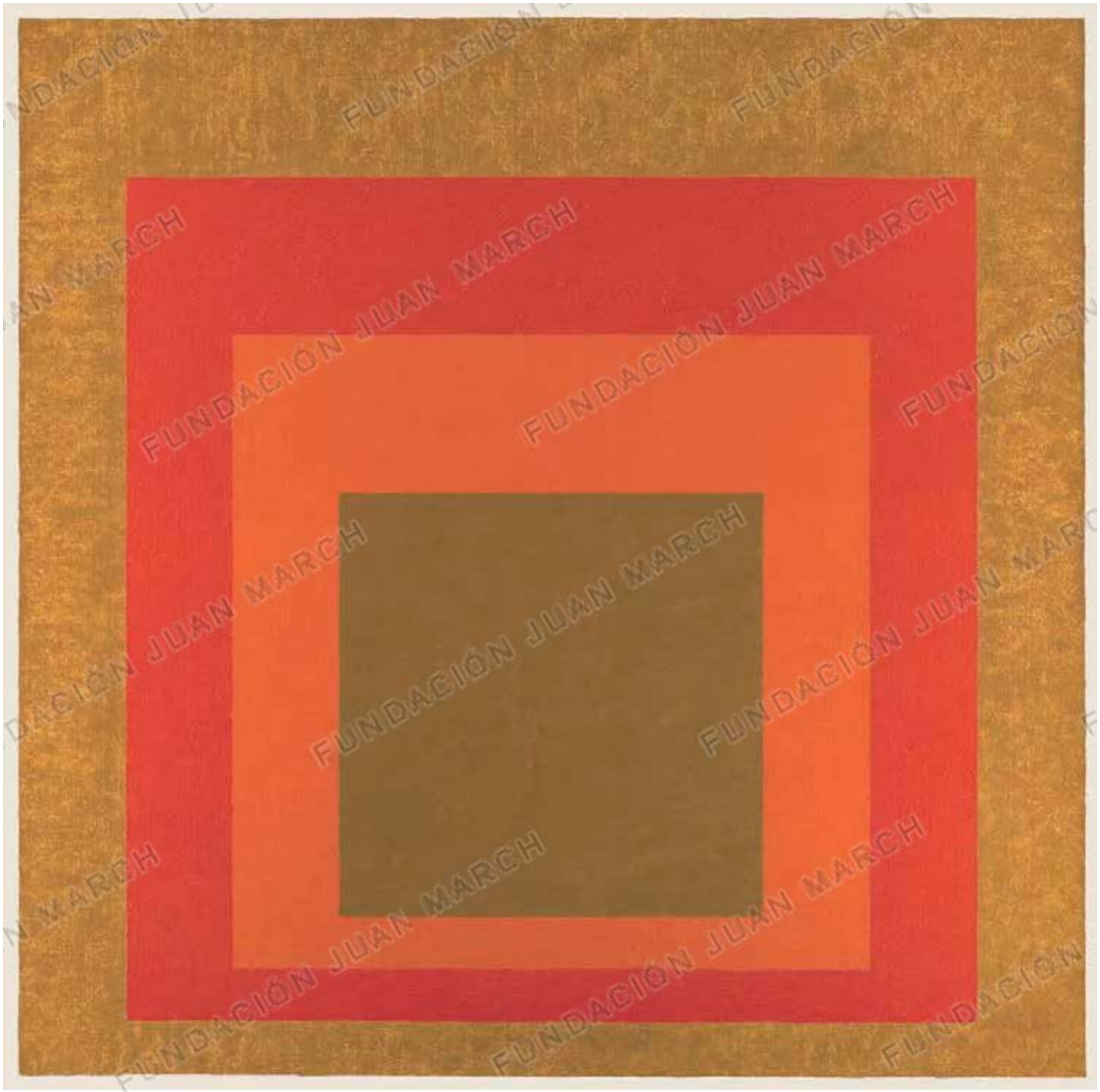


72
*Intaglio Solo X (13/30)*, 1958
Inkless intaglio from Vinylite plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany

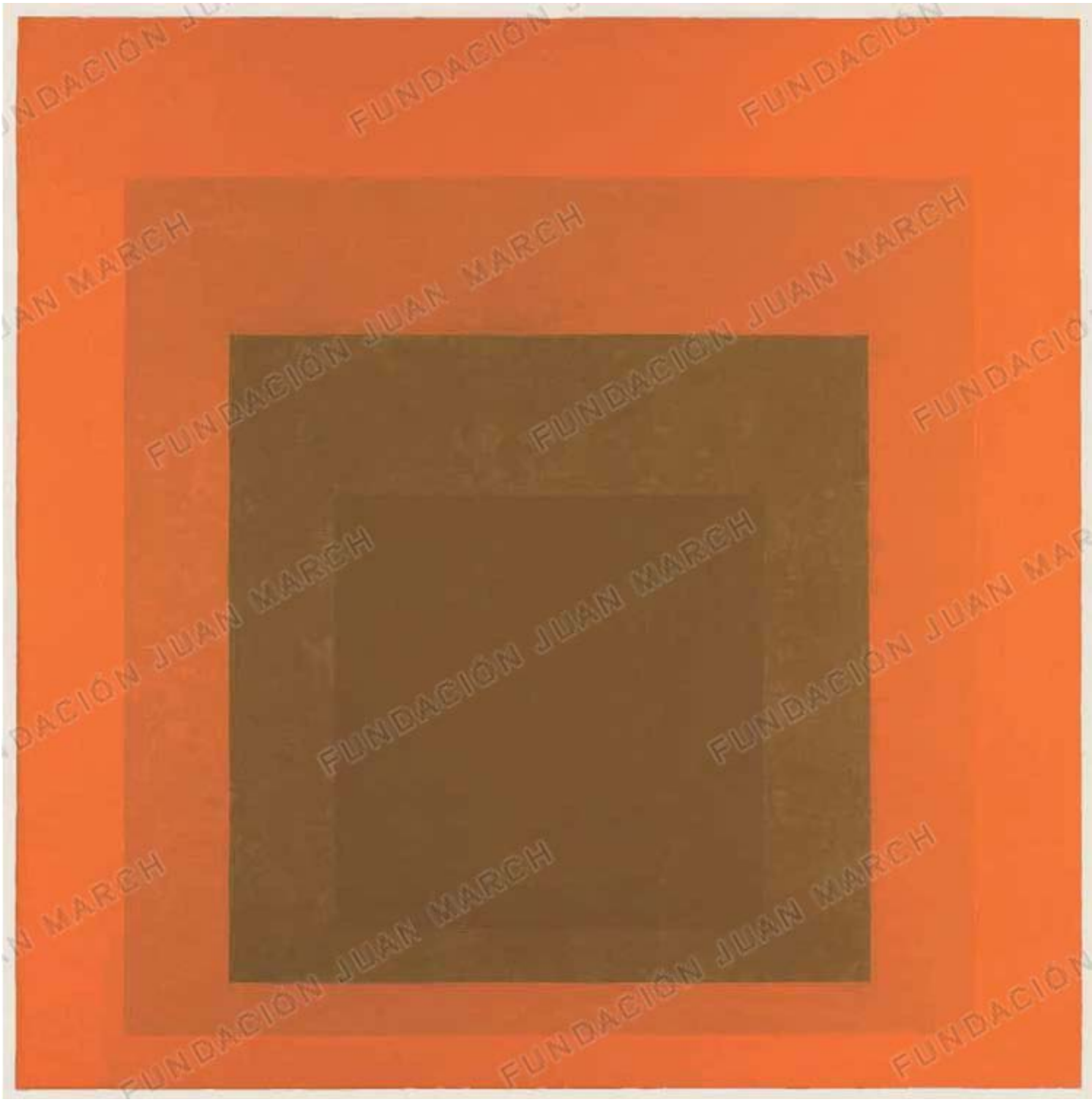
67
*Homage to the Square: Greek Island*, 1957
Oil on Masonite . 23 13/16 x 23 13/16 in (60.5 x 60.5 cm)
Fondation Beyeler, Riehen/Basel, Beyeler Collection



75
*Homage to the Square: Floating*, 1959
Oil on Masonite. 32 x 32 in (81.2 x 81.2 cm)
Avarigani Collection

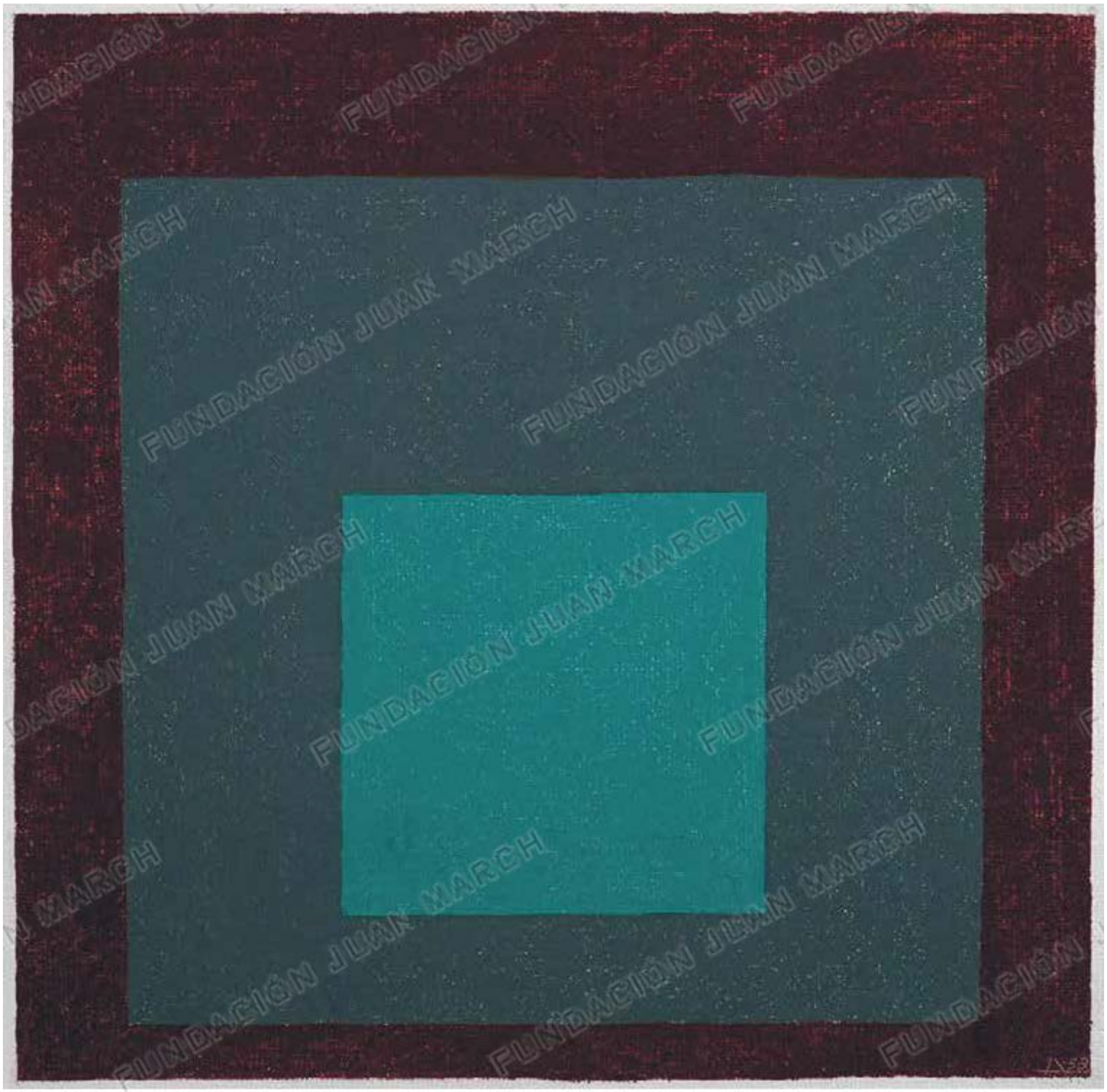


66
*Homage to the Square: Auriferous*, 1955
Oil on Masonite. 31 ⅞ x 31 ⅞ in (81 x 81 cm)
Private collection



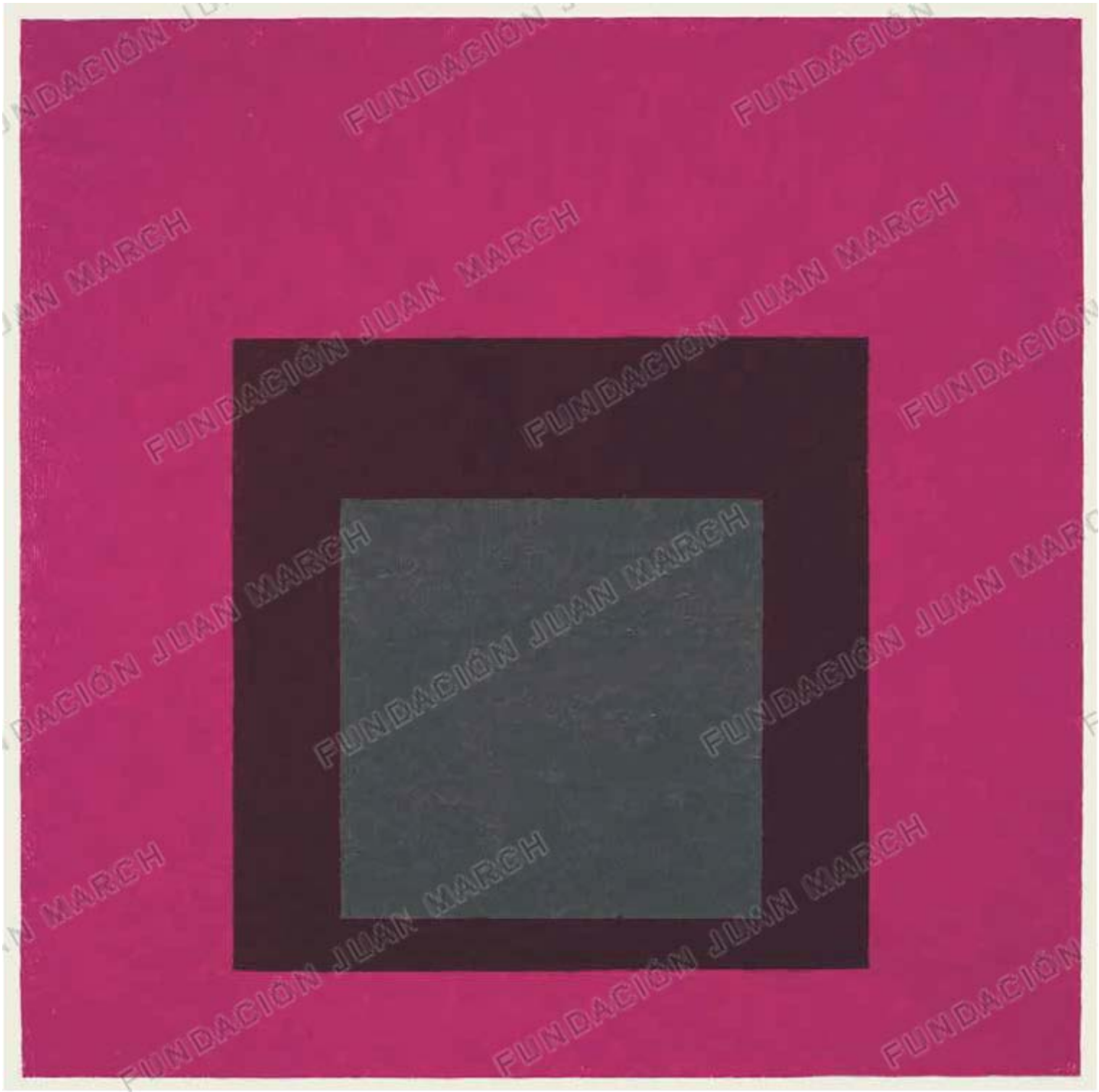
91
*Homage to the Square*, 1965
Oil on Masonite. 39 ⅜ x 39 ⅜ in (100 x 100 cm)
Rodríguez-Pina Collection. Courtesy Galería Elvira González

73
*Homage to the Square*, 1958
Oil on Masonite. 24 x 24 in (61 x 61 cm)
Centre Pompidou, Musée National d'Art Moderne / Centre de création industrielle, Paris. Gift of Anni Albers and The Josef Albers Foundation, 1978. On deposit since 15/11/1994: Musée des Beaux Arts de Tourcoing

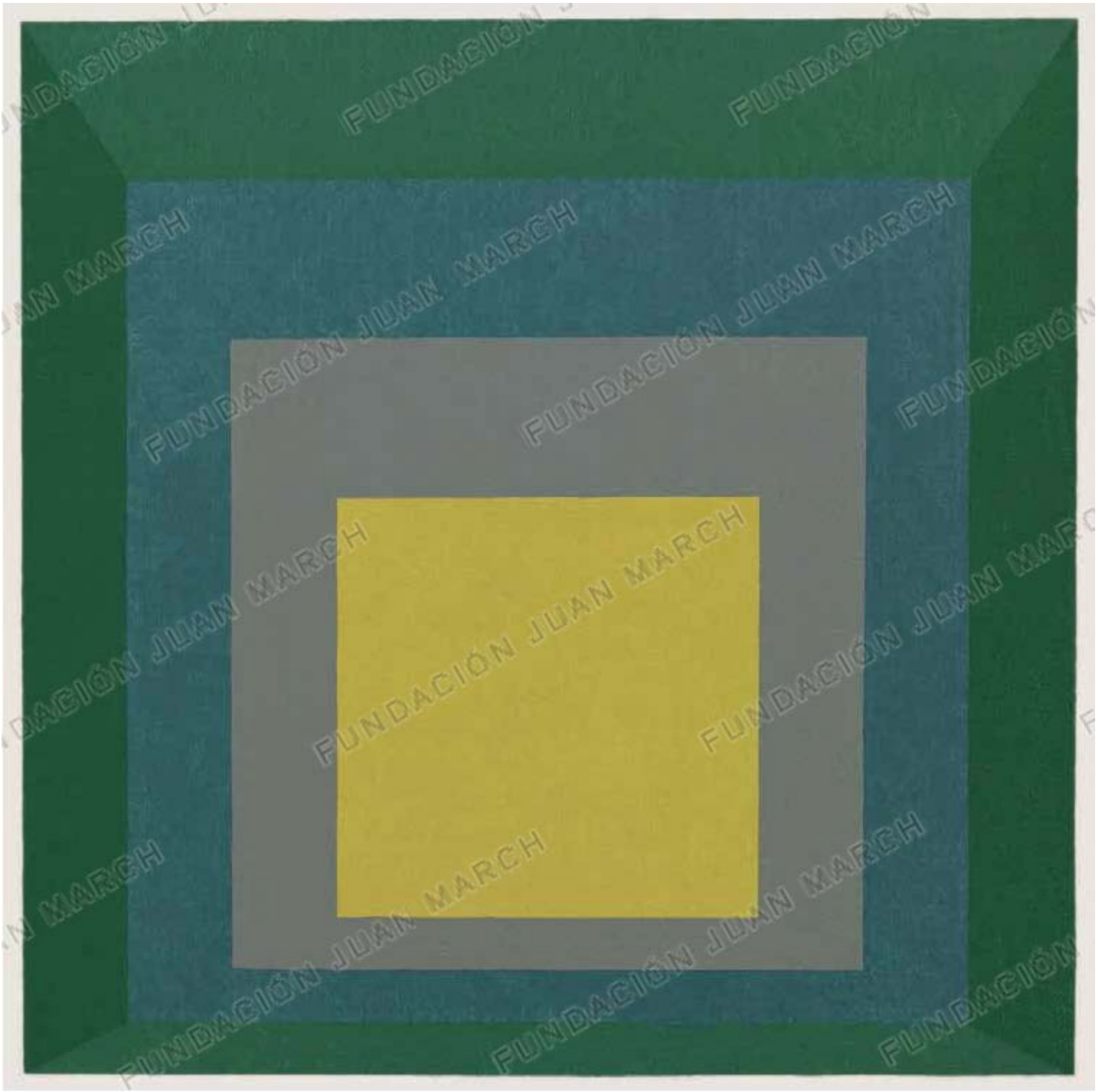


74
*Study for Homage to the Square: Quiet Question*, 1959
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
Private collection. Courtesy Galería Guillermo de Osma

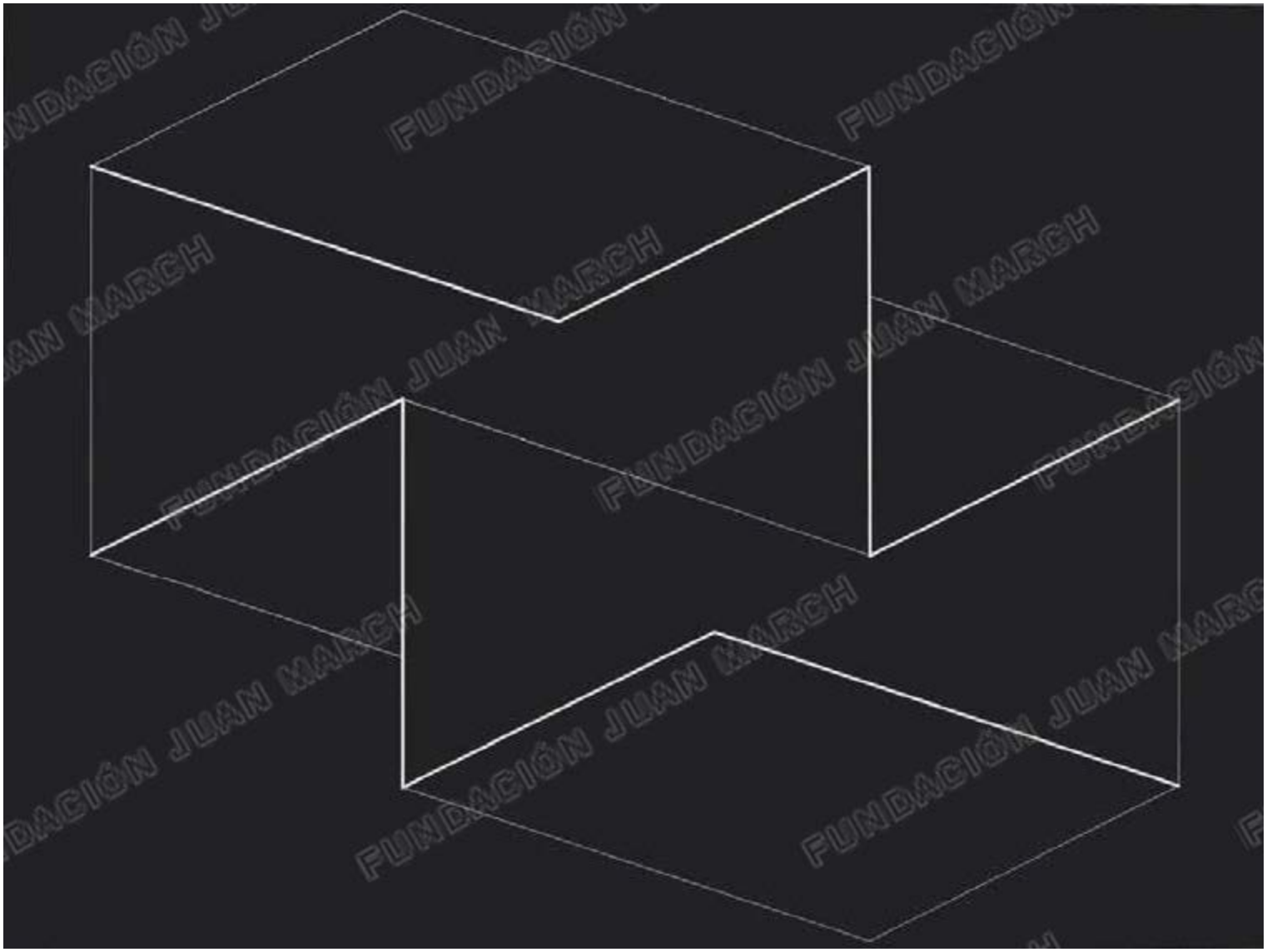
63
*Homage to the Square: Guarded*, 1952
Oil on Masonite. 24 x 24 in (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany



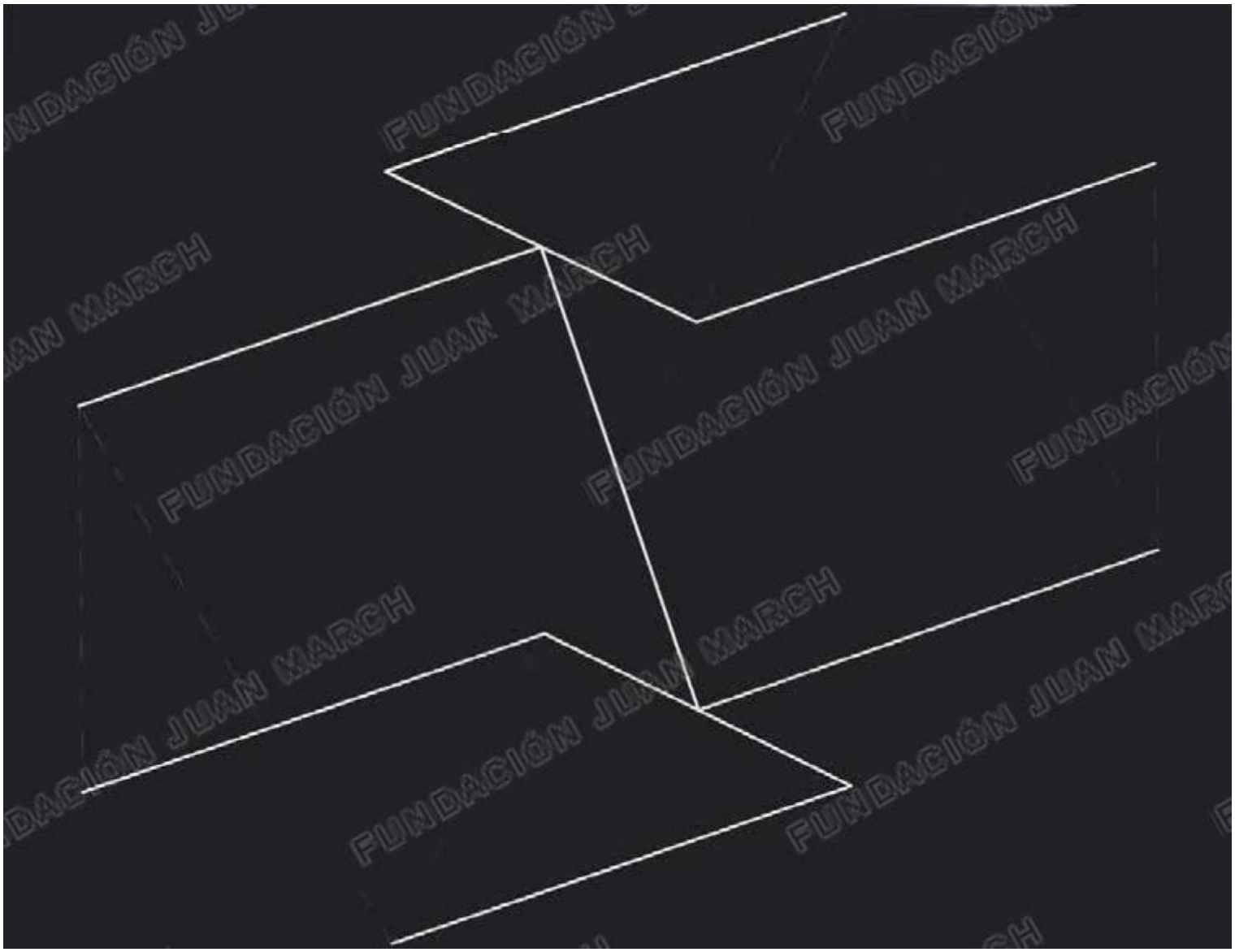
77
*Study for Homage to the Square: Now*, 1962
Oil on Masonite. 24 x 24 in (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany



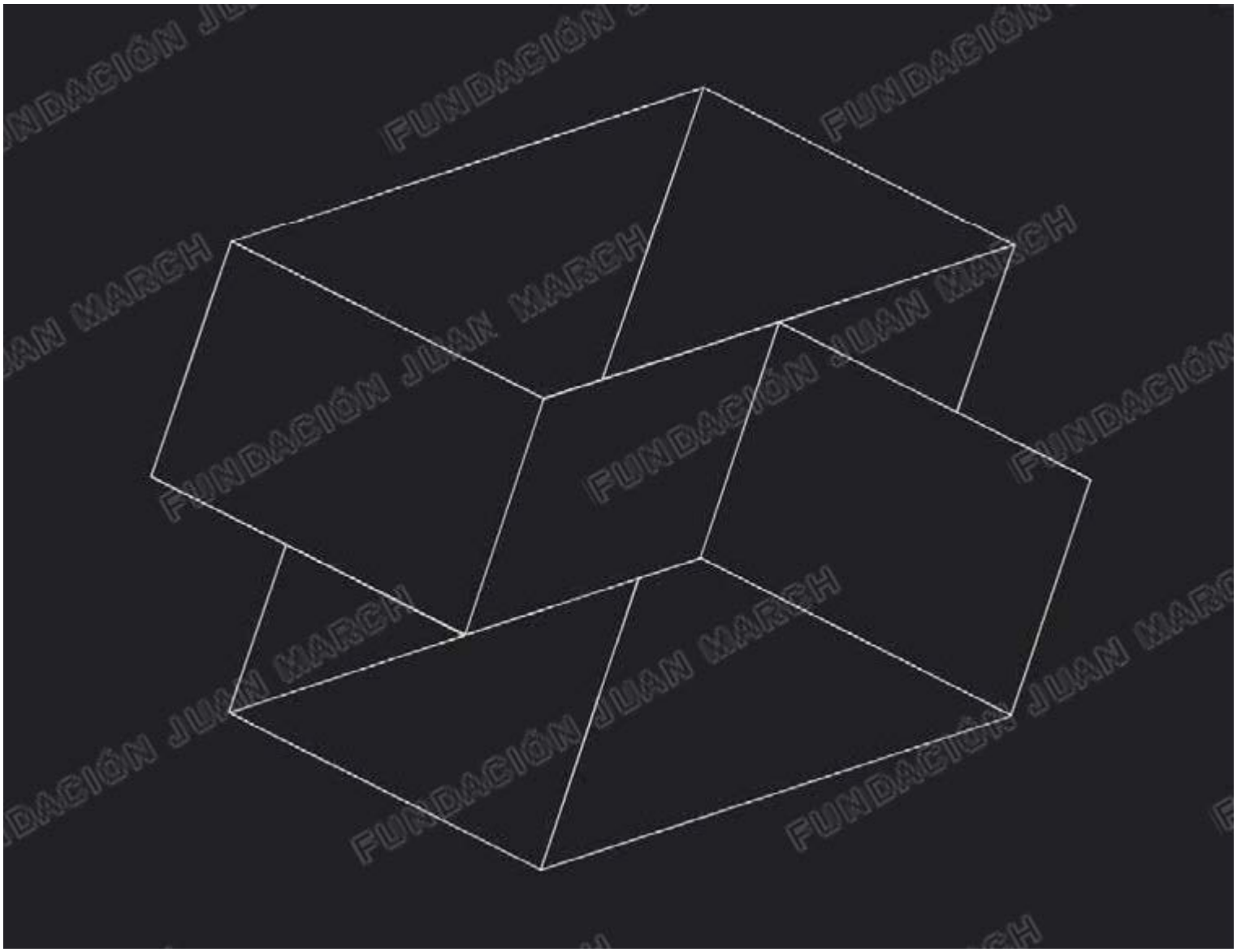
76
*Homage to the Square: Apparition*, 1959
Oil on Masonite. 47 ½ x 47 ½ in (120.6 x 120.6 cm)
Solomon R. Guggenheim Museum, New York



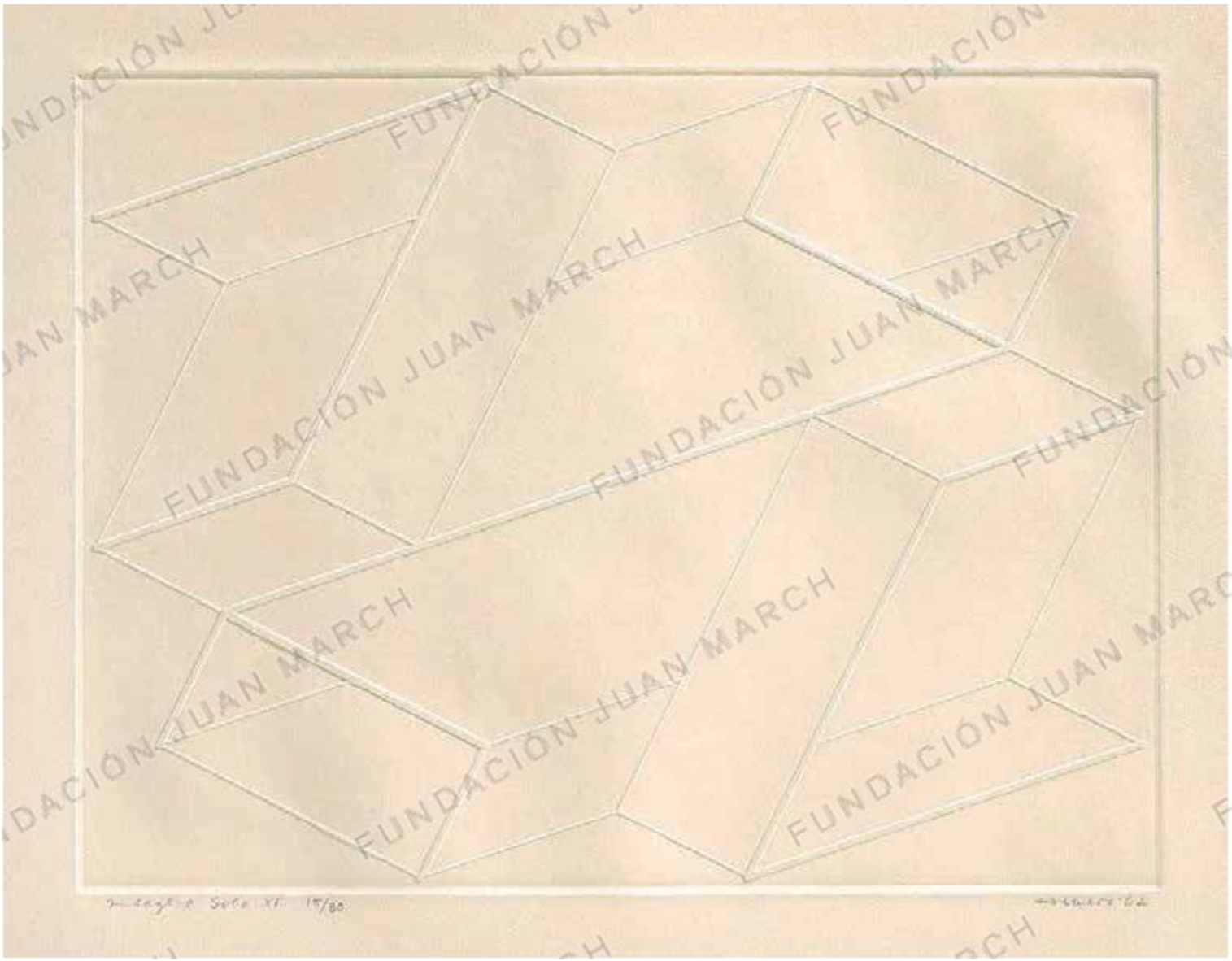
78
*Structural Constellation F.M.E. 5*, 1962
Machine-engraved black plastic laminate mounted on wood. 19 ½ x 26 in (49.5 x 66 cm)
The Josef and Anni Albers Foundation, Bethany



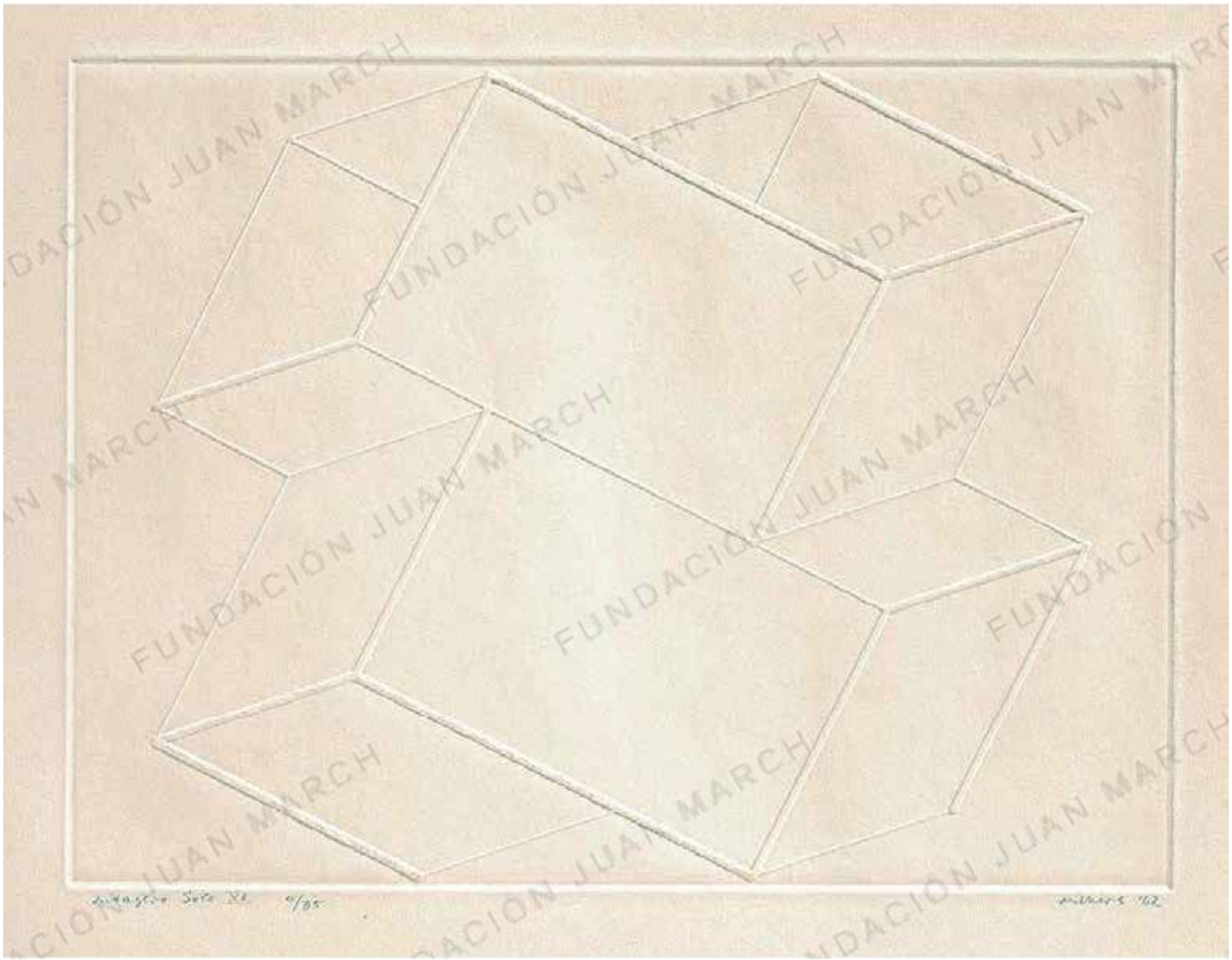
79
*Structural Constellation*, n.d.
Machine-engraved black plastic laminate mounted on wood. 17 ¼ x 22 ½ in (43.8 x 57.2 cm)
The Josef and Anni Albers Foundation, Bethany



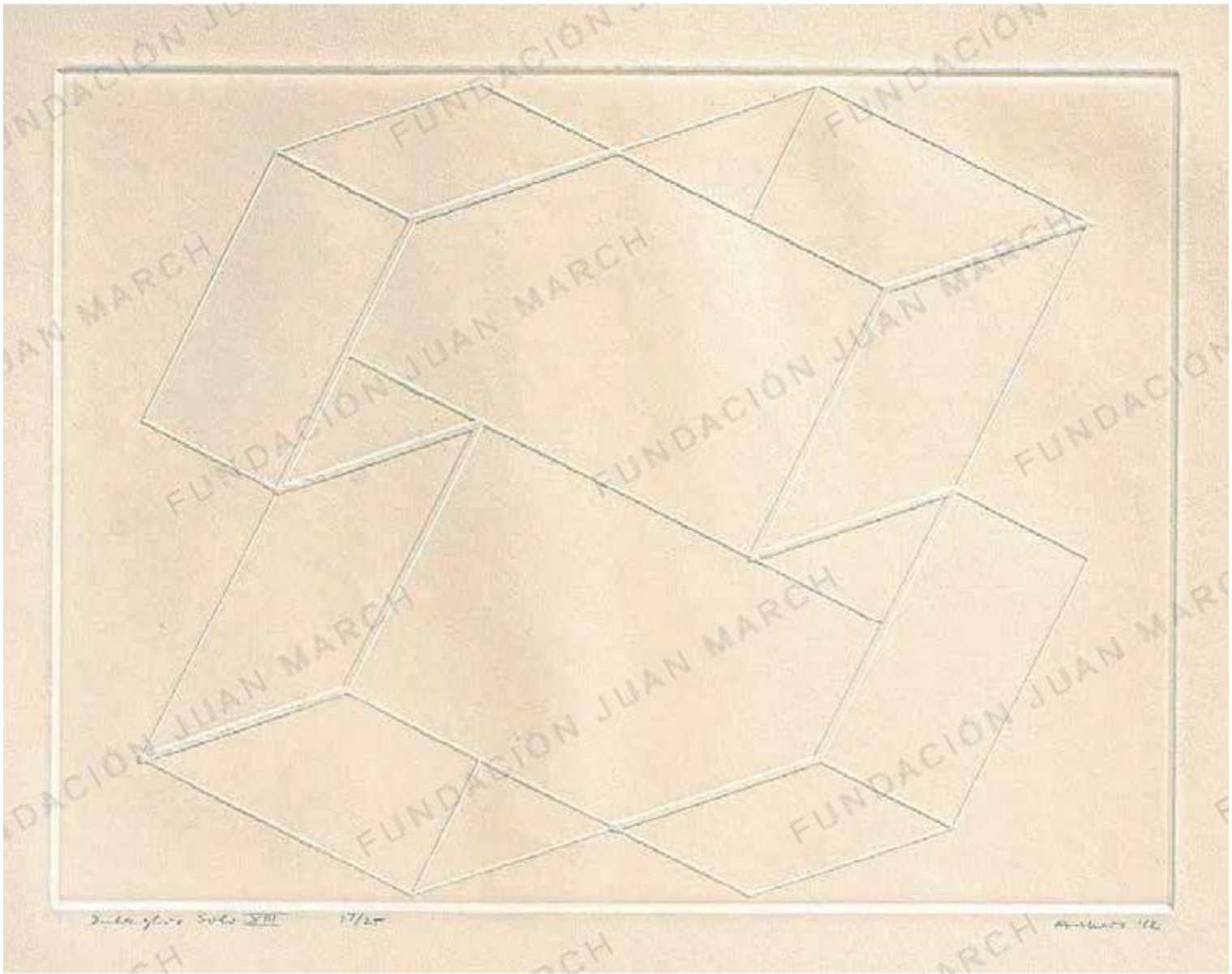
80
*Structural Constellation III*, n.d.
Machine-engraved black plastic laminate mounted on wood. 17 x 22 ½ in (43.2 x 57.2 cm)
The Josef and Anni Albers Foundation, Bethany



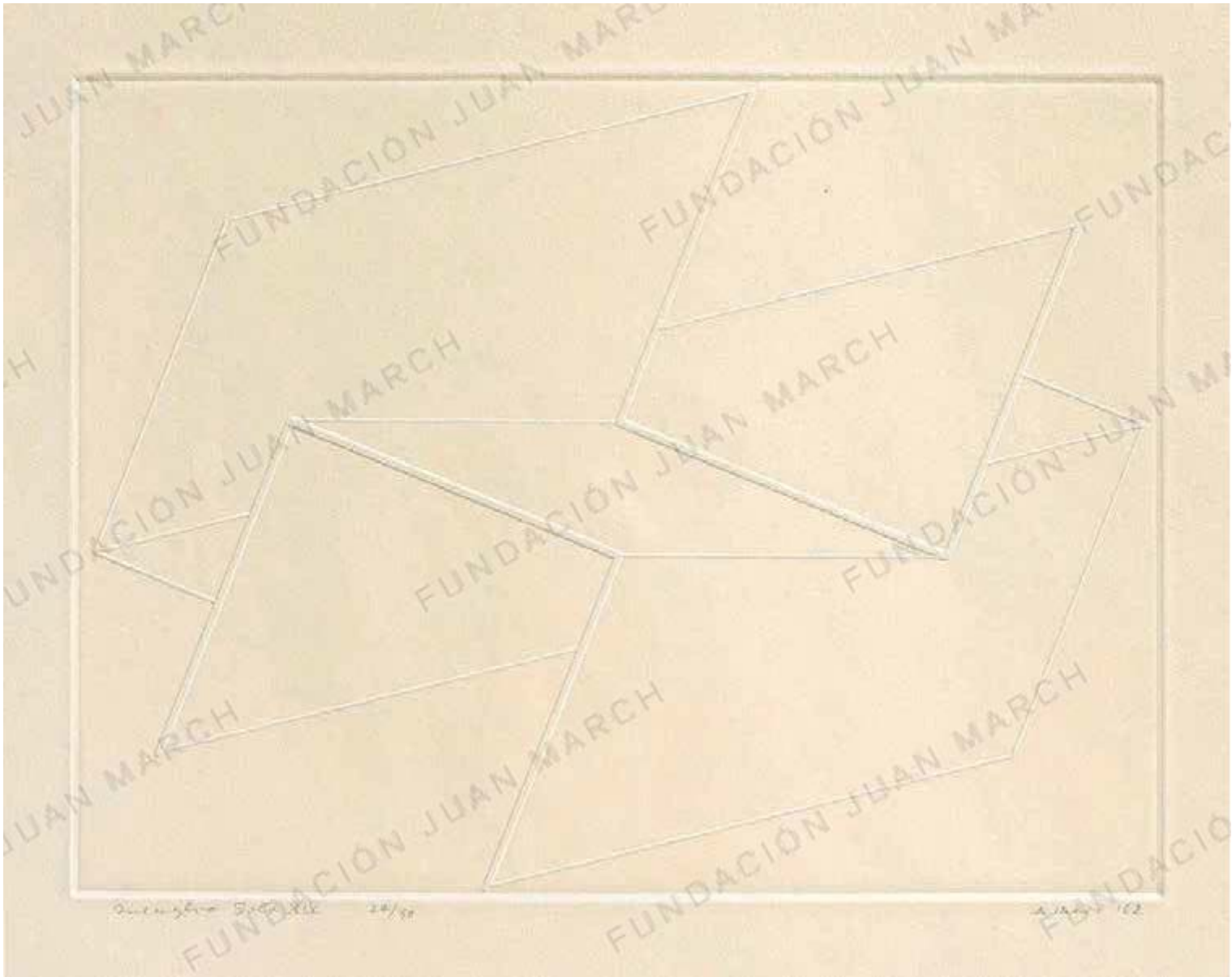
81
*Intaglio Solo XI (15/30)*, 1962
Inkless intaglio from brass plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany



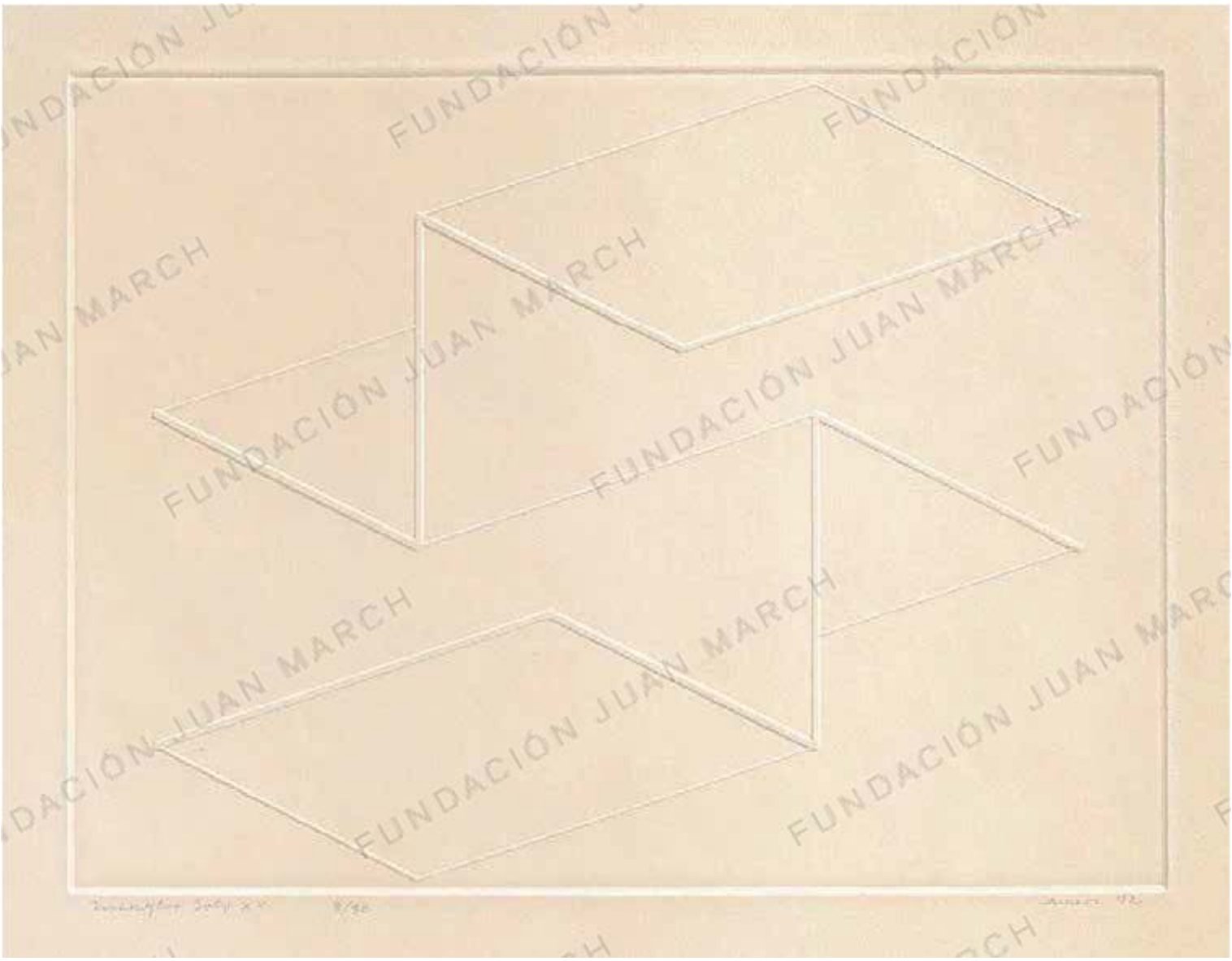
82
*Intaglio Solo XII (5/35)*, 1962
Inkless intaglio from brass plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany



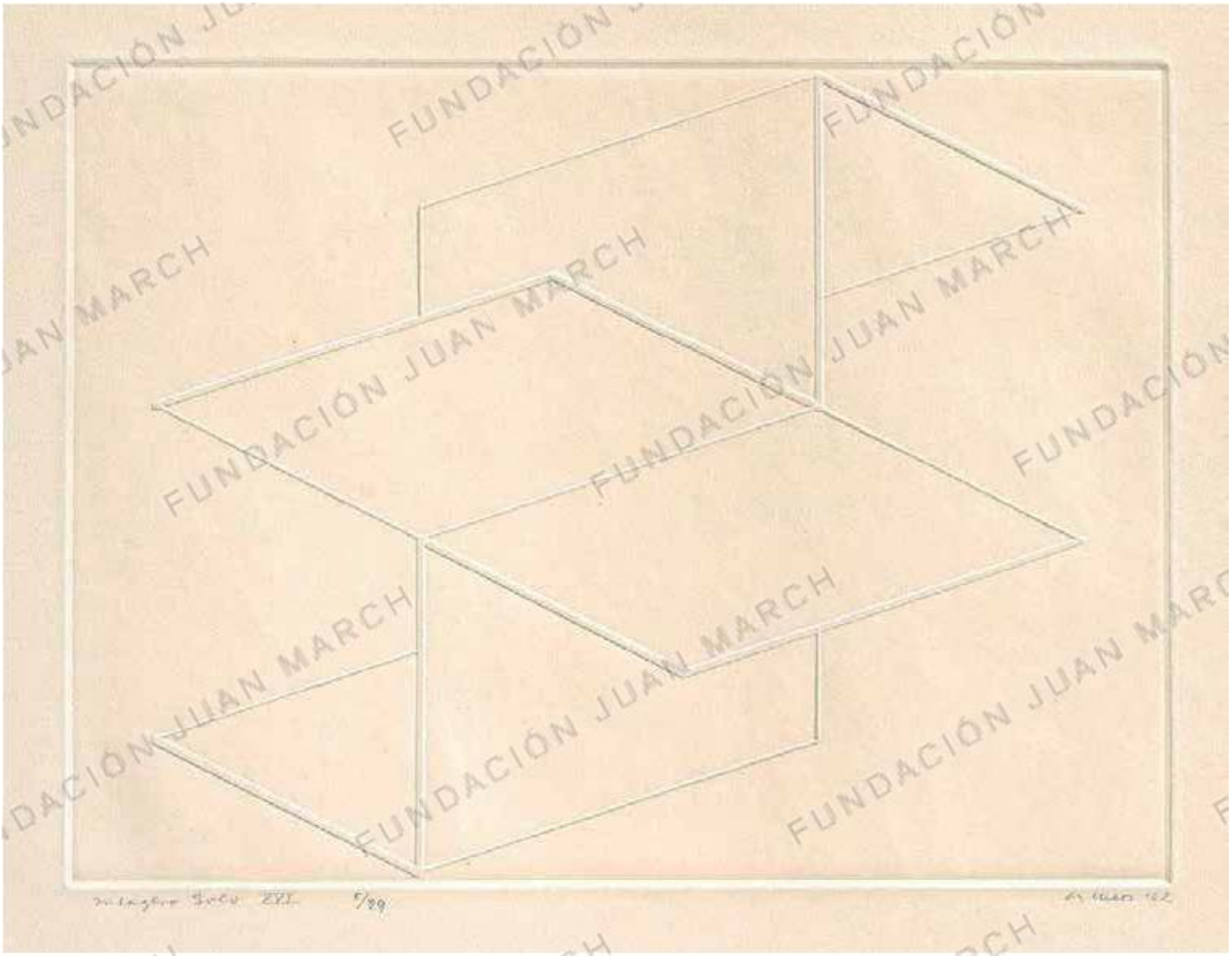
83
*Intaglio Solo XIII (17/25)*, 1962
Inkless intaglio from brass plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany



84
*Intaglio Solo XIV (24/30)*, 1962
Inkless intaglio from brass plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany



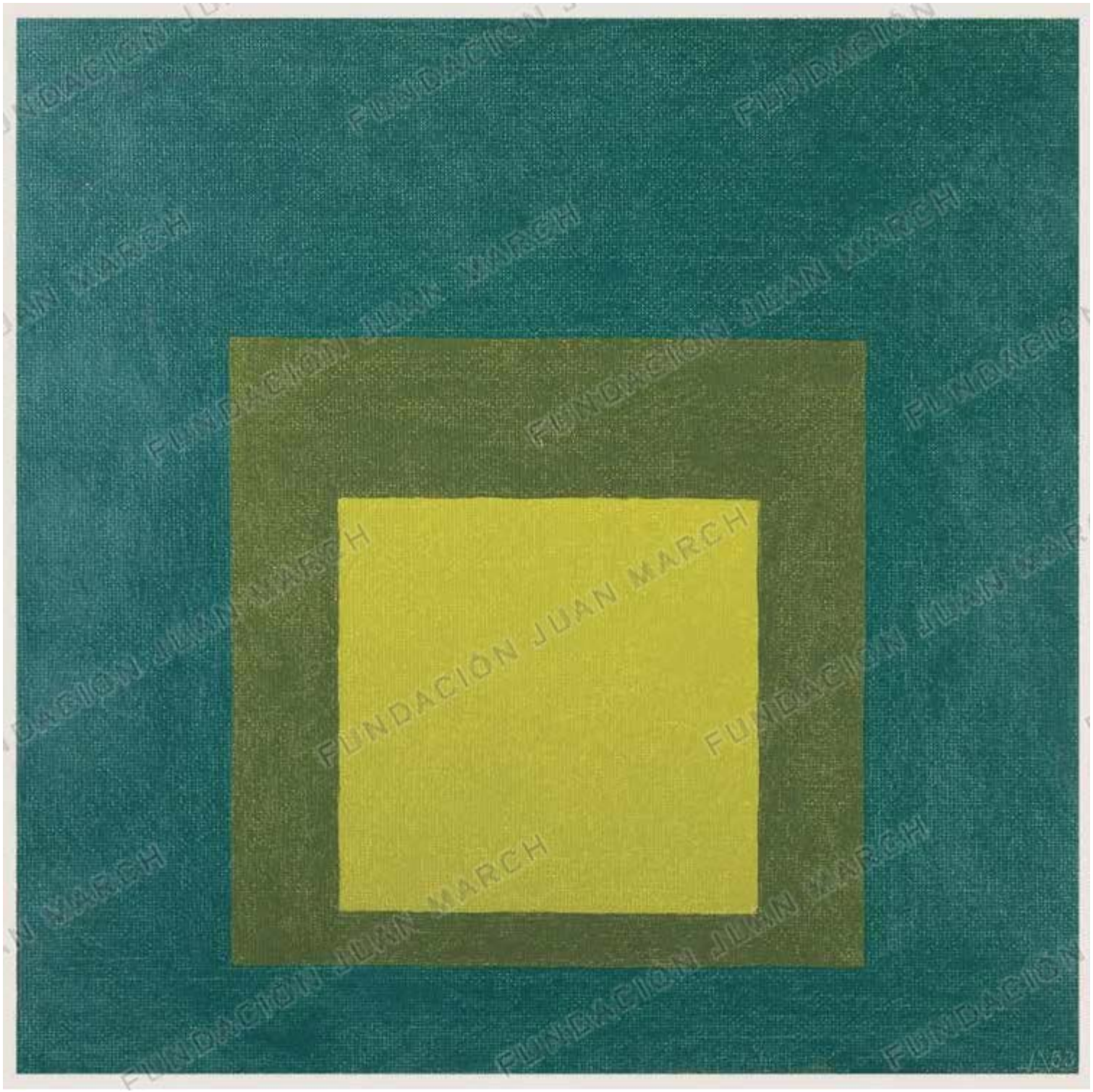
85
*Intaglio Solo XV (8/30)*, 1962
Inkless intaglio from brass plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany



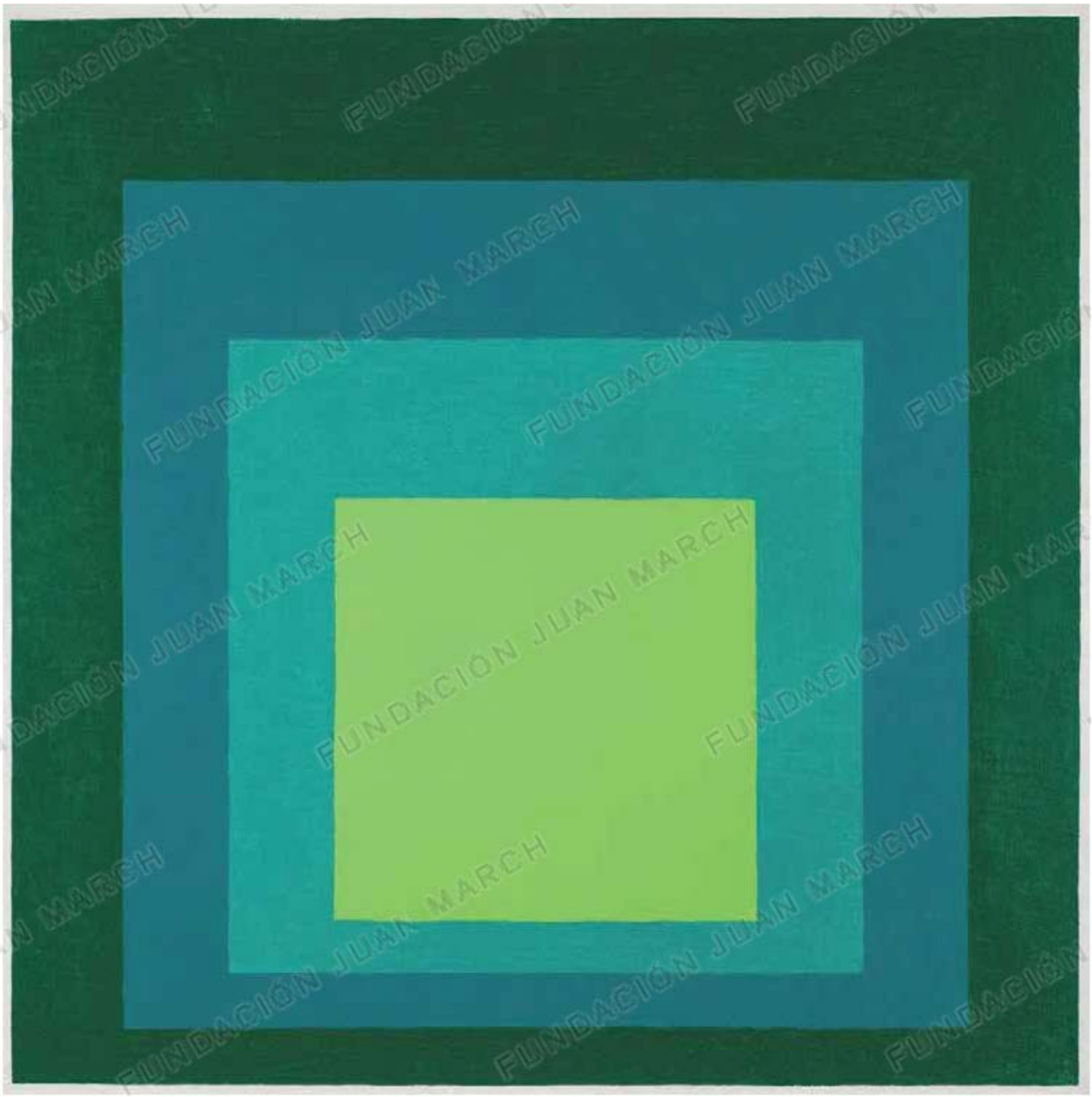
86
*Intaglio Solo XVI (5/29)*, 1962
Inkless intaglio from brass plate. 15 x 22 ¼ in (38.1 x 56.5 cm)
The Josef and Anni Albers Foundation, Bethany

87
*Study for Homage to the Square: Dimly Reflected*, 1963
Oil on Masonite. 24 x 24 in (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany

88
*Study for Homage to the Square: Lone Whites*, 1963
Oil on Masonite. 24 x 24 in (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany

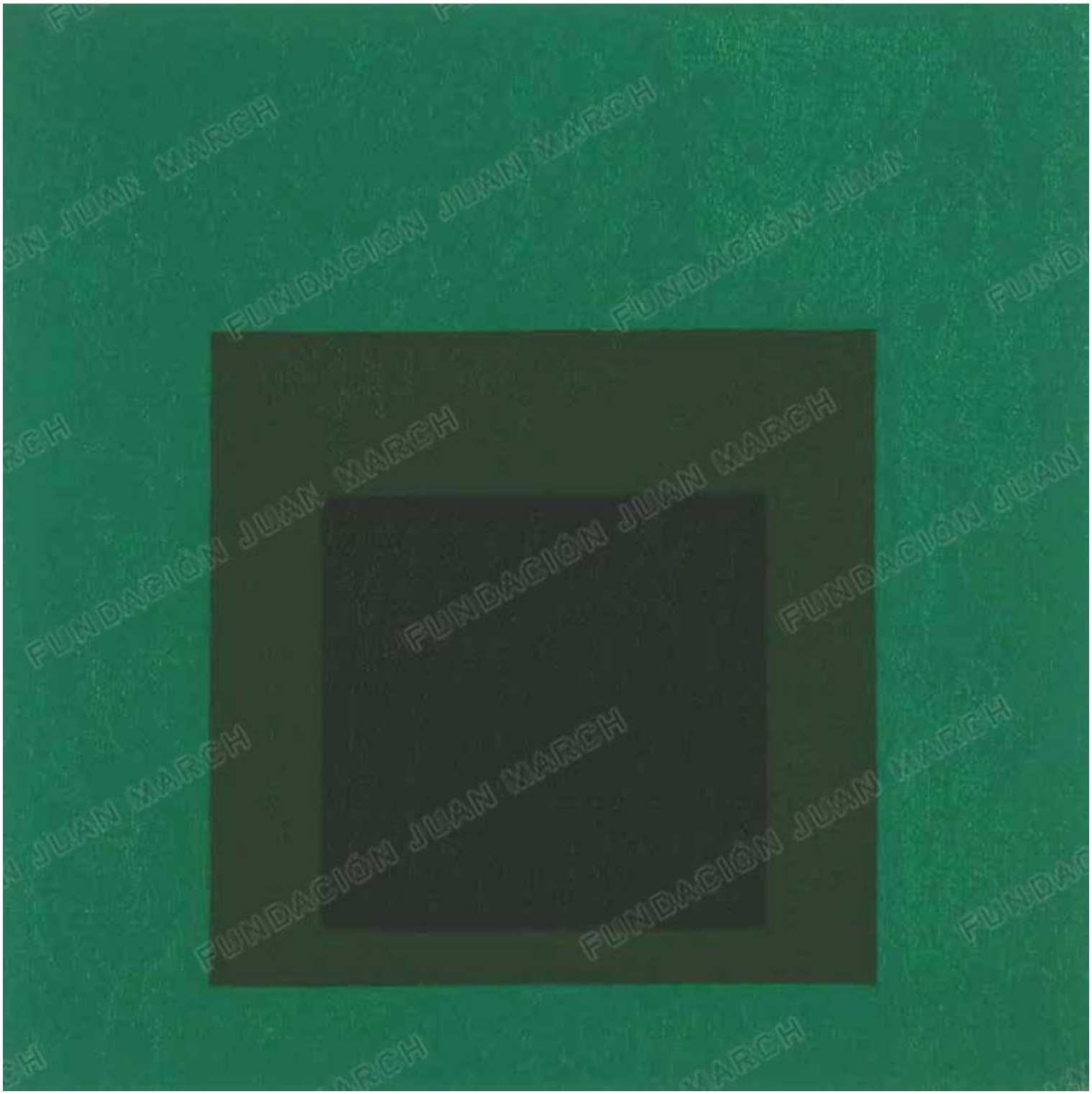


89
*Homage to the Square*, 1963
Oil on Masonite. 18 x 18 in (45.7 x 45.7 cm)
Helga de Alvear Collection, Madrid/Cáceres



90
*Study for Homage to the Square: Nowhere*, 1964
Oil on Masonite. 32 x 32 in (81.2 x 81.2 cm)
Avarigani Collection

93
*Study for Homage to the Square*, 1965
Oil on Masonite. 31 ⅞ x 31 ⅞ in (81 x 81 cm)
Josef Albers Museum Quadrat, Bottrop

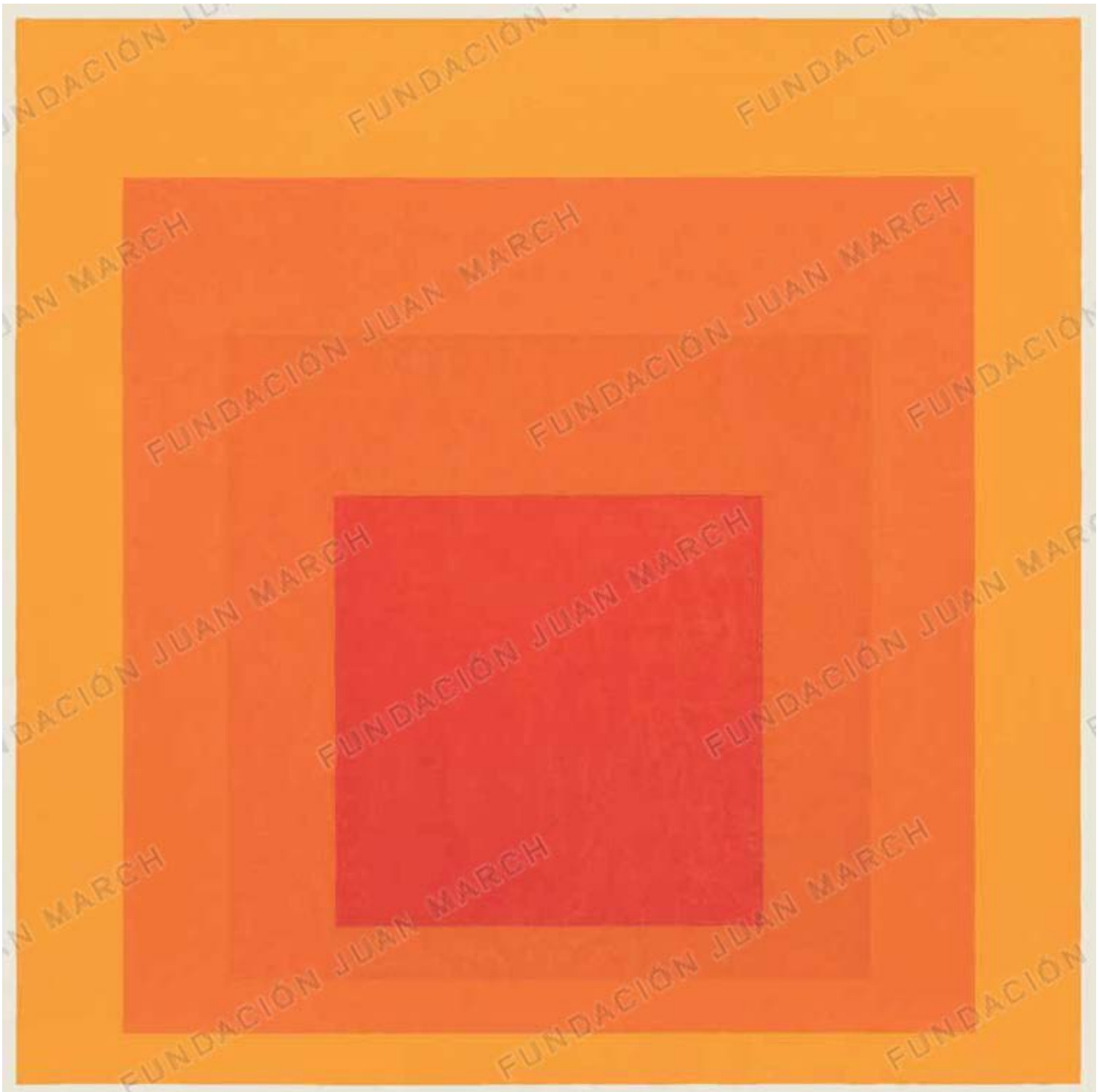


95
*Study for Homage to the Square*, 1967
Oil on Masonite. 31 ⅞ x 31 ⅞ in (81 x 81 cm)
Josef Albers Museum Quadrat, Bottrop

92
*Study for Homage to the Square: Far in Far*, 1965
Oil on Masonite. 24 x 24 in (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany

96
*Study for Homage to the Square*, 1968
Oil on Masonite. 24 x 24 in (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany

97
*Study for Homage to the Square*, 1968
Oil on Masonite. 24 x 24 in (61 x 61 cm)
The Josef and Anni Albers Foundation, Bethany

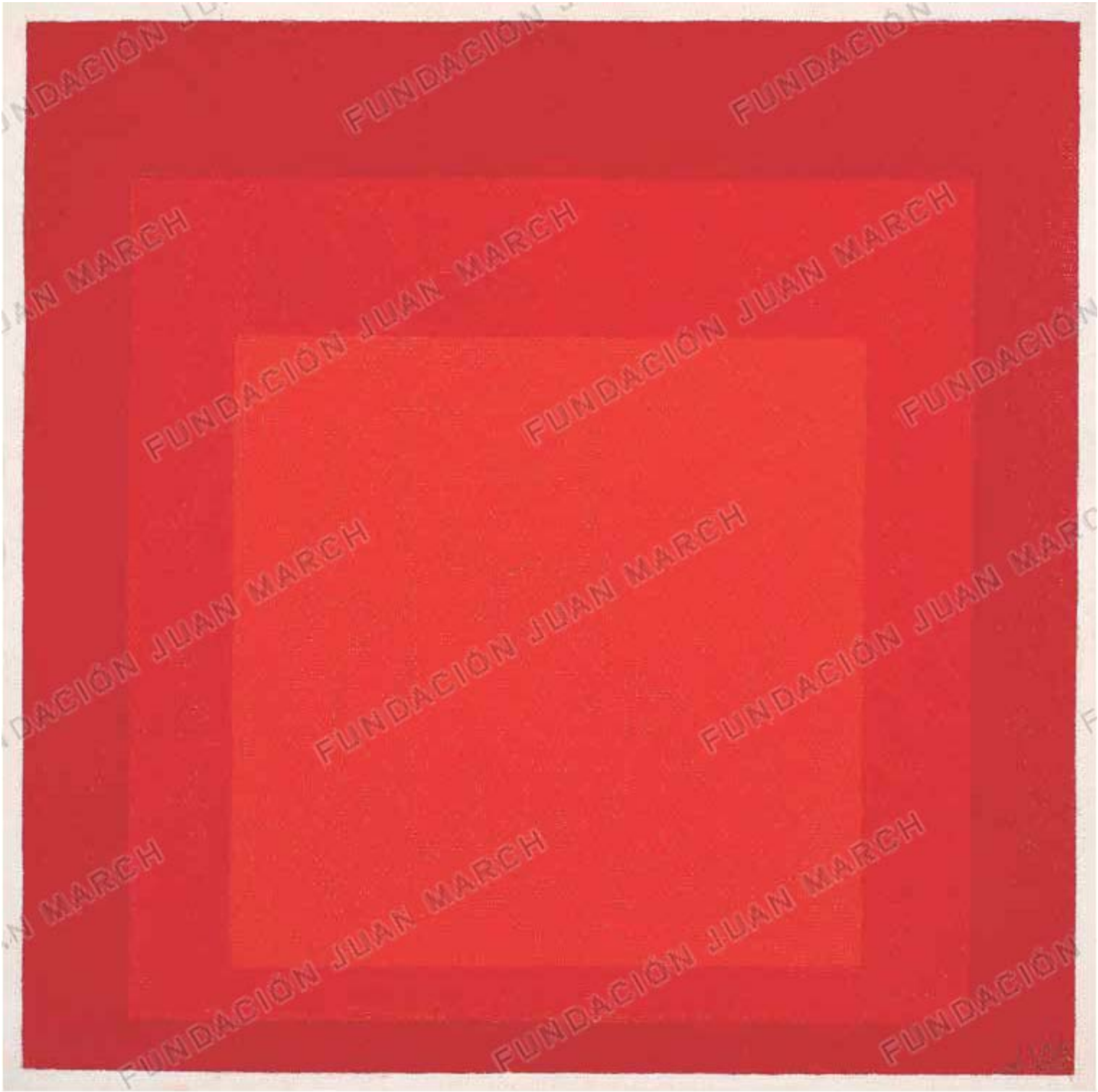


94
*Homage to the Square: Glow*, 1966
Acrylic on fiberboard. 48 x 48 in. (121.9 x 121.9 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. Gift of Joseph H. Hirshhorn, 1972

105
*Homage to the Square*, 1971
Oil on Masonite. 48 x 48 in (121.9 x 121.9 cm)
The Josef and Anni Albers Foundation, Bethany

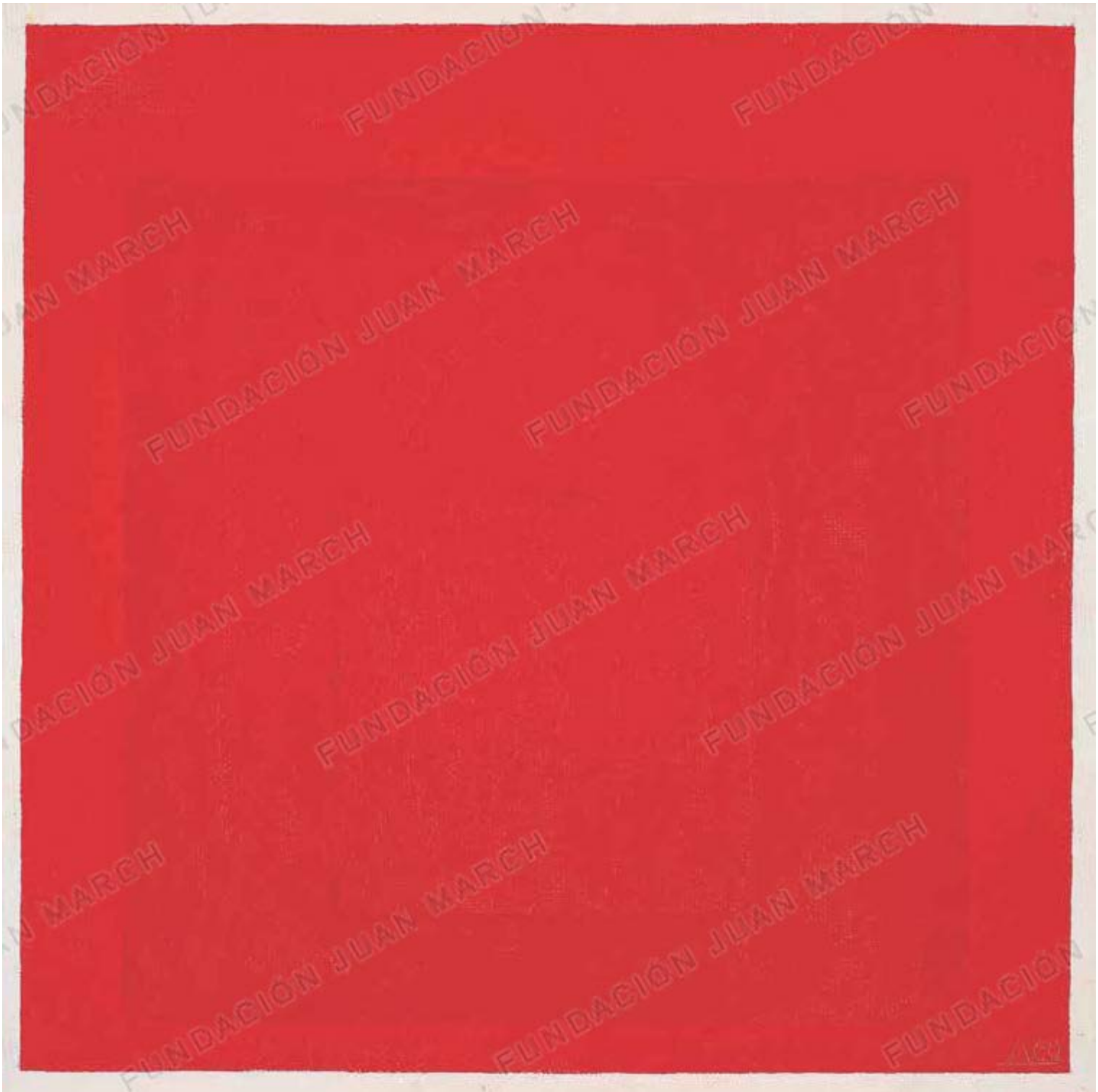
98
*Homage to the Square: R-I a-3*, 1968
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
The Josef and Anni Albers Foundation, Bethany

99
*Homage to the Square: R-I b-1*, 1968
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
The Josef and Anni Albers Foundation, Bethany

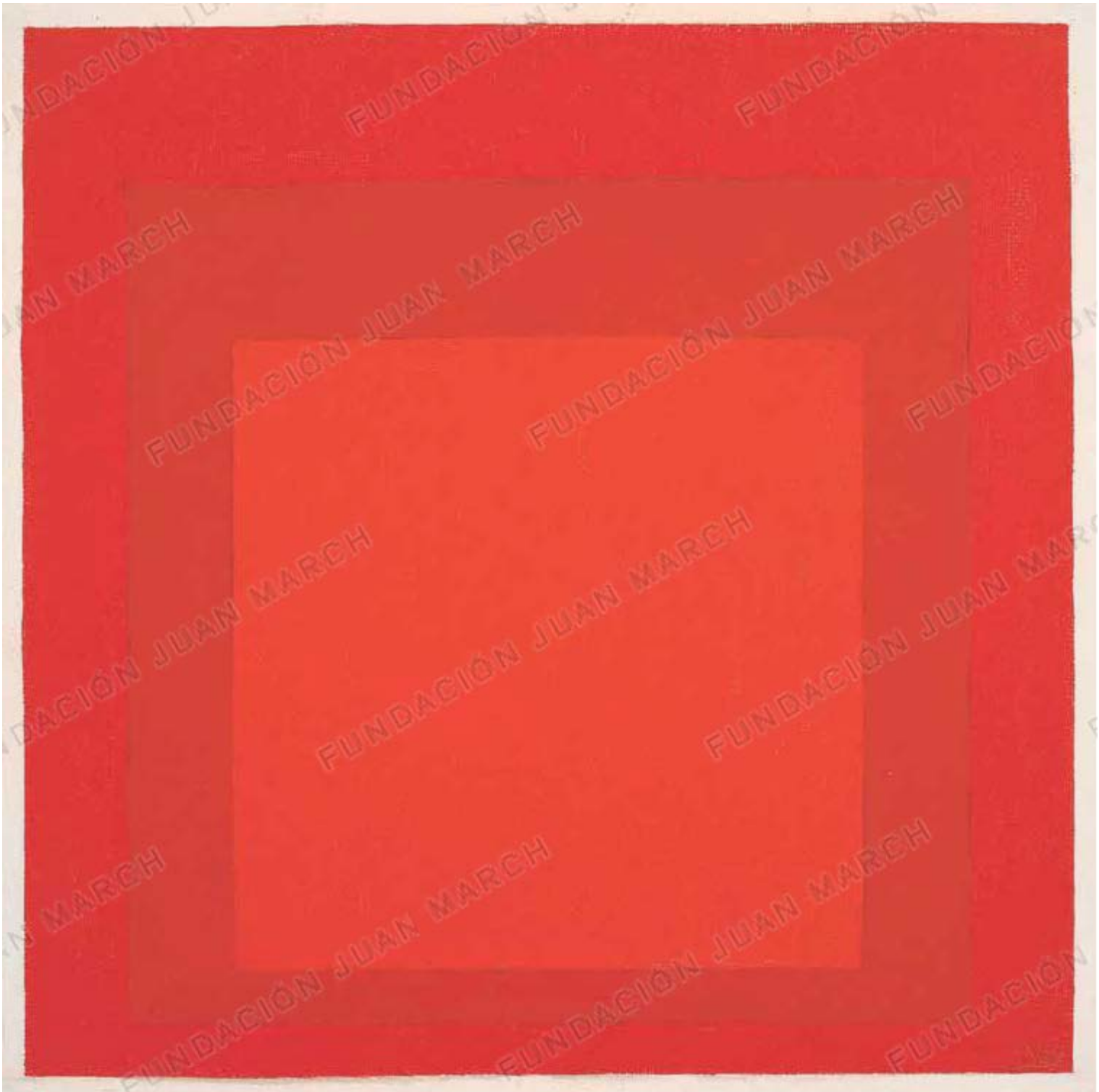


100
*Homage to the Square: R-I c-2*, 1968
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
The Josef and Anni Albers Foundation, Bethany

101
*Homage to the Square: R-I c-5*, 1968
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
The Josef and Anni Albers Foundation, Bethany

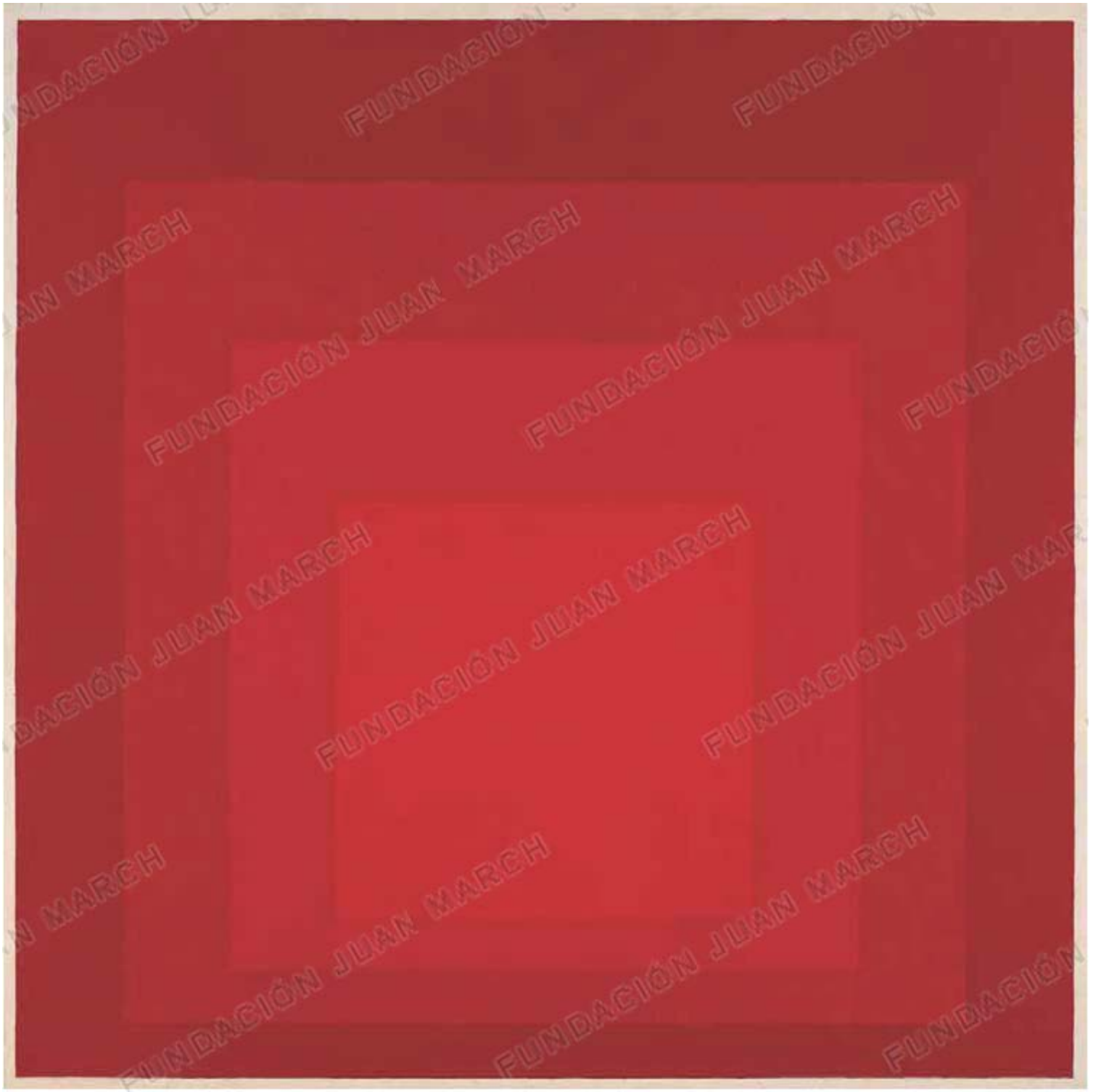


102
*Homage to the Square*, 1969
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
The Josef and Anni Albers Foundation, Bethany

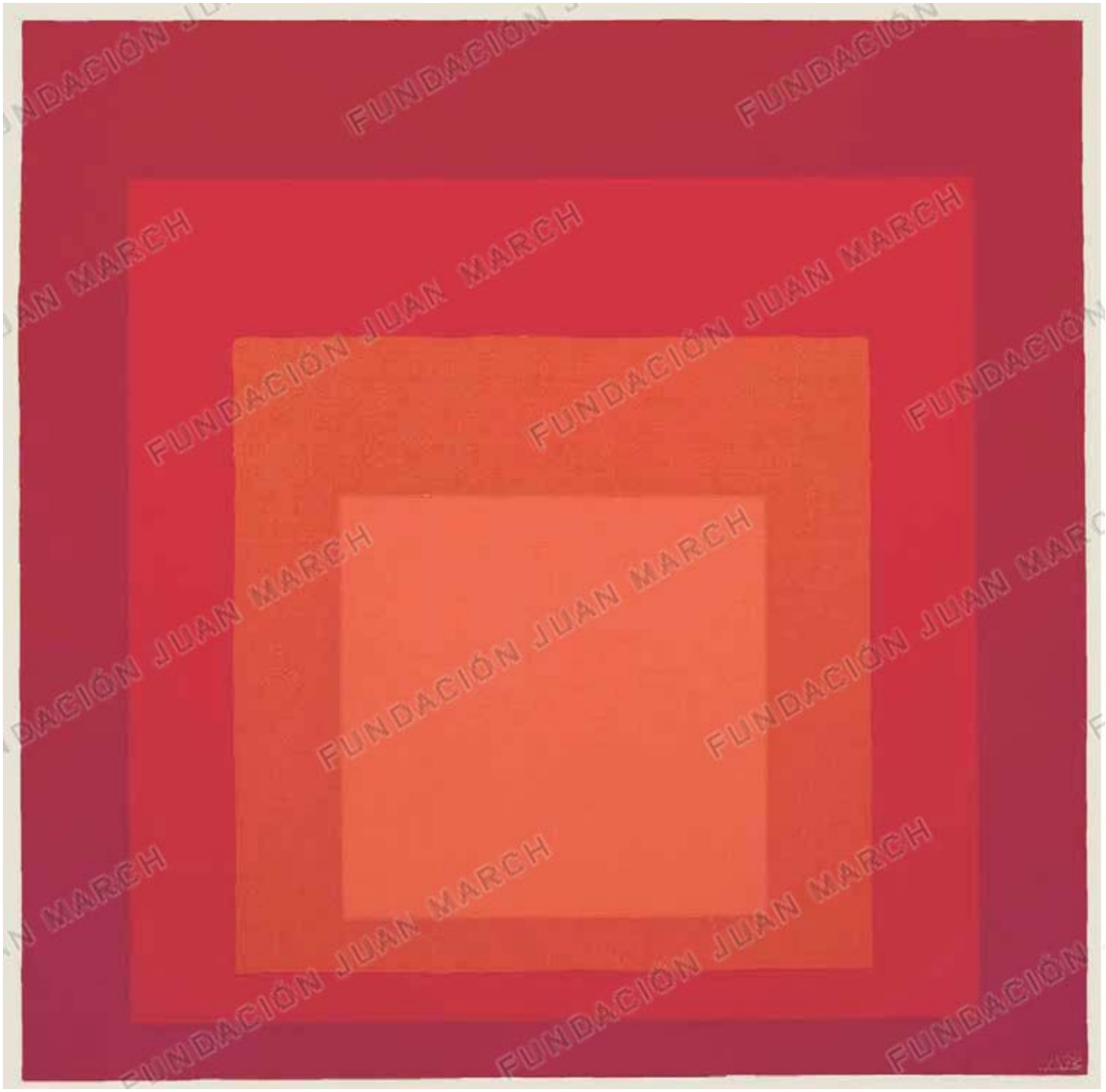


103
*Study for Homage to the Square: Who Knows*, 1969
Oil on Masonite. 16 x 16 in (40.6 x 40.6 cm)
The Josef and Anni Albers Foundation, Bethany

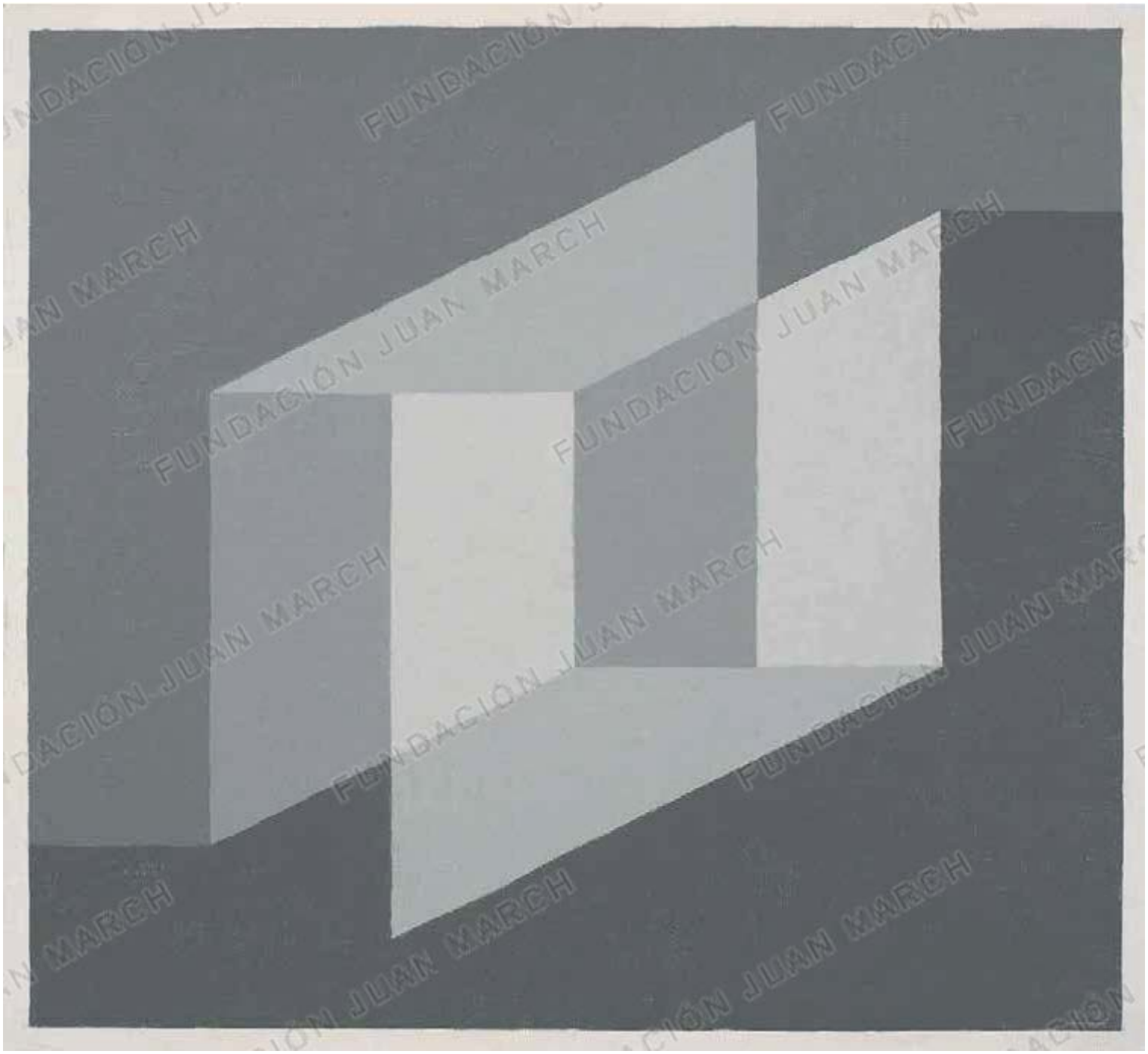
104
*Homage to the Square: Frontal-Forward*, 1970
Oil on Masonite. 40 x 40 in (101.6 x 101.6 cm)
The Metropolitan Museum of Art, New York. Gift of Douglas Dillon, 1991



109
*Homage to the Square*, 1971
Oil on Masonite. 40 x 40 in (101.6 x 101.6 cm)
The Josef and Anni Albers Foundation, Bethany



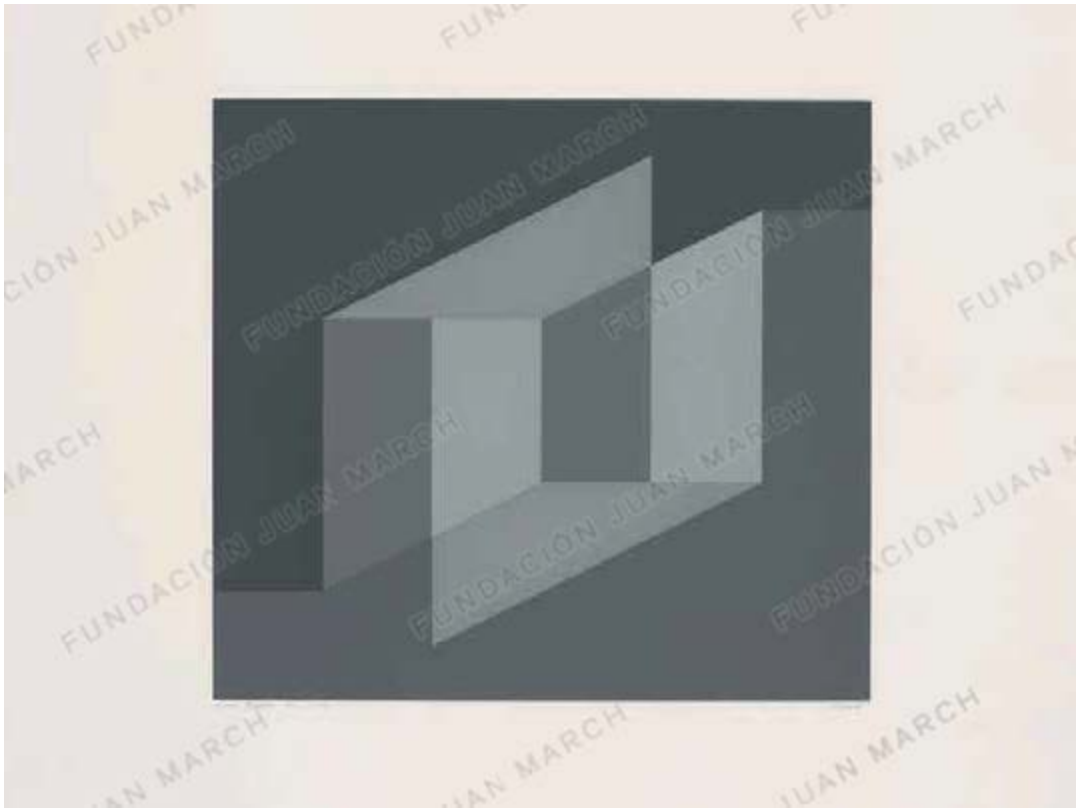
110
*Homage to the Square*, 1972
Oil on Masonite. 24 x 24 in (61 x 61 cm)
Colección Patricia Phelps de Cisneros



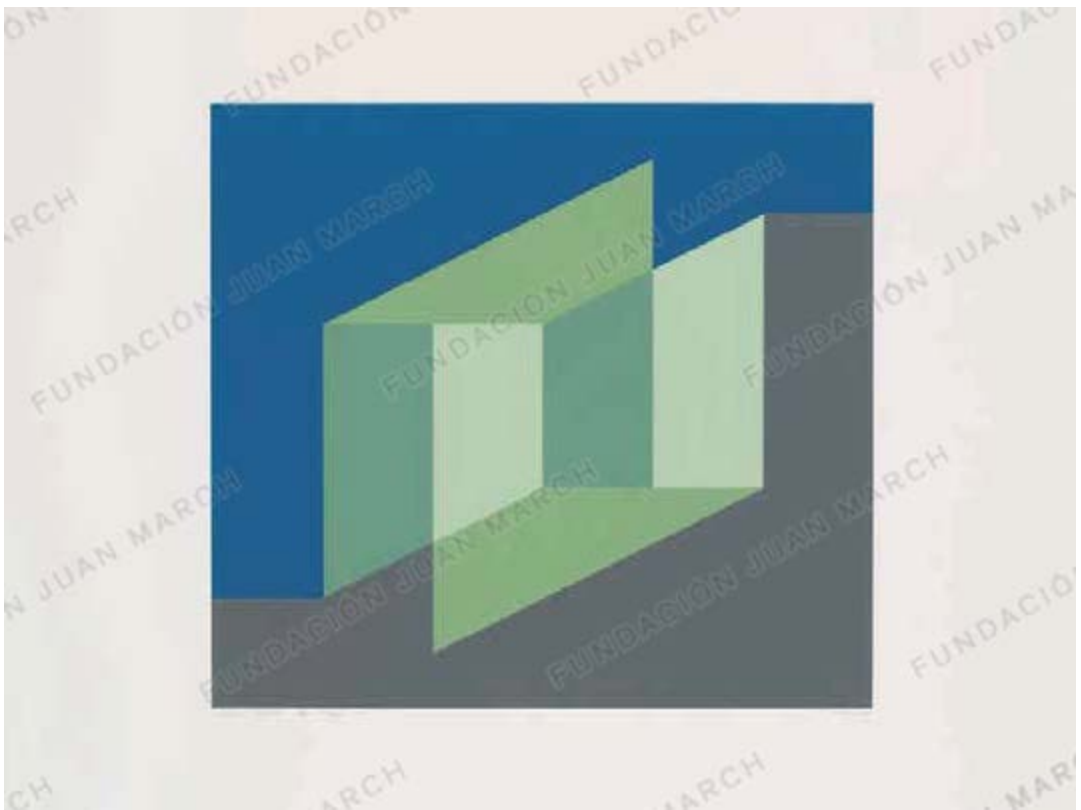
106
*Indicating Solids*, 1971
Oil on Masonite. 24 x 22 in (61 x 55.9 cm)
The Josef and Anni Albers Foundation, Bethany

107
*Study for Never Before*, ca. 1971
Oil on blotting paper. 19 15/16 x 19 1/8 in (50.6 x 48.6 cm)
The Josef and Anni Albers Foundation, Bethany

108
*Study for Never Before*, ca. 1971
Oil on blotting paper. 18 x 11 ½ in (45.7 x 29.2 cm)
The Josef and Anni Albers Foundation, Bethany



111
*Never Before a*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

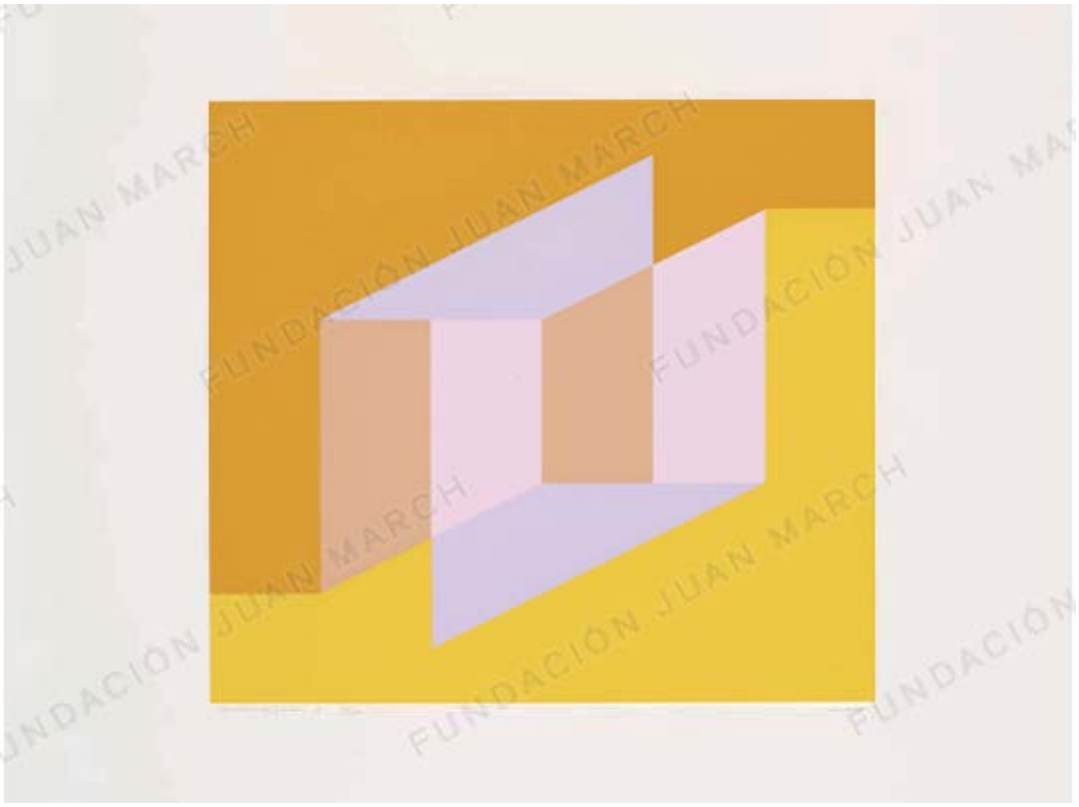


112
*Never Before b*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

113
*Never Before c*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

114
*Never Before d*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

115
*Never Before e*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany



116
*Never Before f*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

117
*Never Before g*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

118
*Never Before h*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

119
*Never Before i*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

120
*Never Before j*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

121
*Never Before k*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

122
*Never Before l*, 1976
Screenprint. 19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany

123
Salad bowl with wooden servers, 1924–1925
Glass and hand-carved wood. Fork: 9 11/16 x 1 1/4 in (24.6 x 3.2 cm); spoon: 9 7/8 x 1 3/8 in (25 x 3.4 cm); bowl: height: 4 3/16 in (10.6 cm); diameter: 9 in (22.8 cm)
Stiftung Bauhaus Dessau

124
Bowl, 1924–1925
Glass, wood
Height: 1 5/8 in (4.1 cm); diameter: 7 3/8 in (18.7 cm); width with handle: 9 1/2 in (24.2 cm)
Stiftung Bauhaus Dessau

125
Tea glass with porcelain saucer, 1926
Tea glass: heat-proof glass, chrome-plated steel ring (stamped "Krupp V2A"), black lacquered ebony handle
Diameter: 3 1/2 in (8.8 cm); height: 2 in (5 cm); overall width: 5 1/2 in (14 cm)
Saucer: white Meissen porcelain (crossed swords trademark on the bottom)
Diameter: 4 in (10 cm); height: 3/16 in (0.5 cm)
Stiftung Bauhaus Dessau

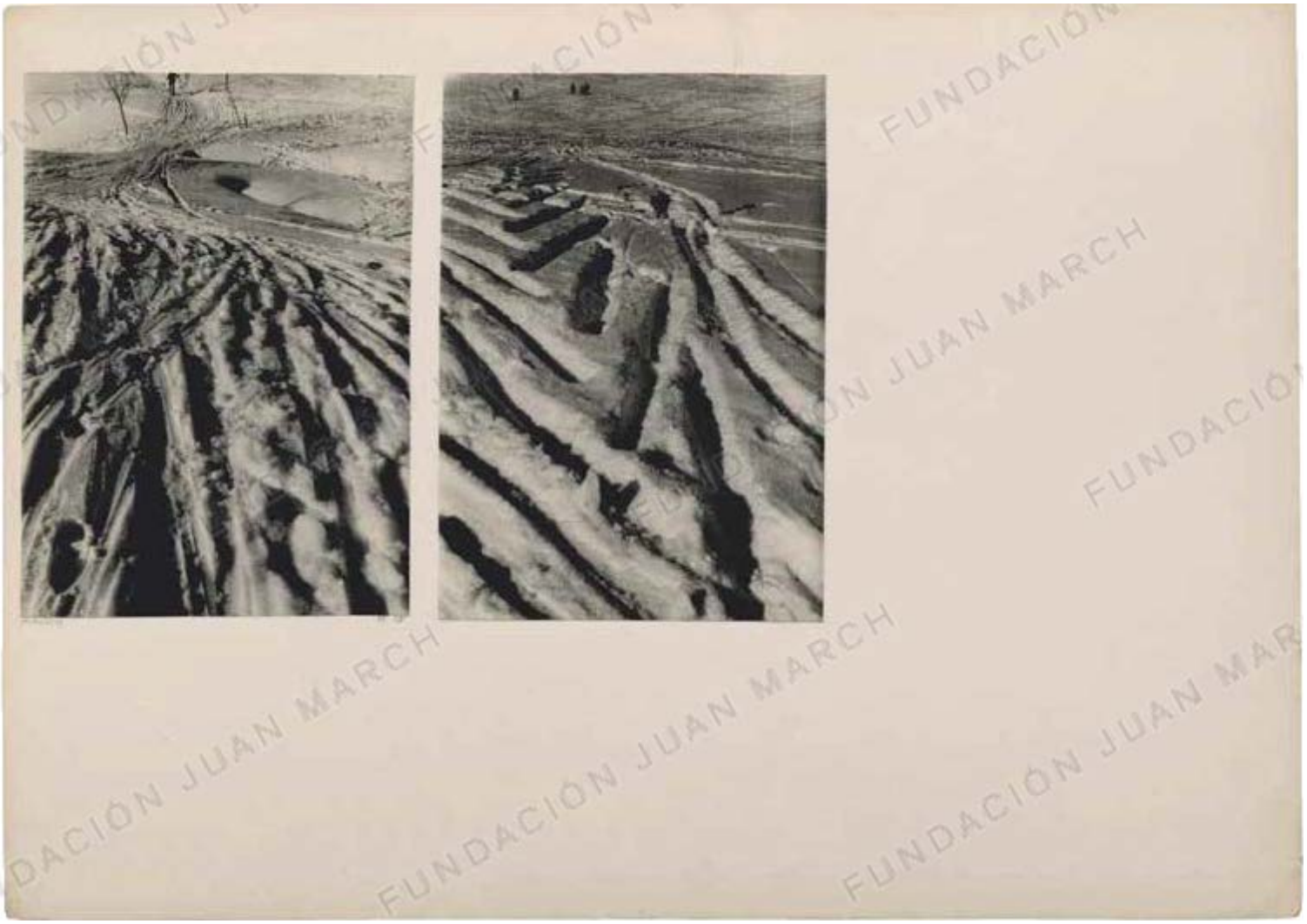
126
Stacking table (set of four), ca. 1927
Ash veneer, black lacquer and painted glass
15 5/8 x 16 3/8 x 15 3/4 in (39.7 x 41.6 x 40 cm)
18 5/8 x 18 7/8 x 15 3/4 in (47.3 x 47.9 x 40 cm)
21 3/4 x 21 x 15 3/4 in (55.2 x 53.3 x 40 cm)
24 5/8 x 23 5/8 x 15 7/8 in (62.5 x 60 x 40.3 cm)
The Josef and Anni Albers Foundation, Bethany

128
Writing desk, ca. 1927
Ash veneer, black lacquer and painted glass. 30 x 35⅜ x 23 in (76.2 x 89.9 x 58.4 cm)
The Josef and Anni Albers Foundation, Bethany

127
Office desk, ca. 1927
Ash and mahogany, black lacquer.
30 x 62 x 30 in (76.2 x 157.4 x 76.2 cm)
The Josef and Anni Albers Foundation, Bethany


130
Armchair ti 244, 1928
Bent ash wood, veneered, and feather cushion, green horsehair cover.
Height: 57 ⅞ in (147 cm); width: 57 ⅛ in (145 cm); overall depth: 6 ¹¹⁄₁₆ in (17 cm)
Stiftung Bauhaus Dessau

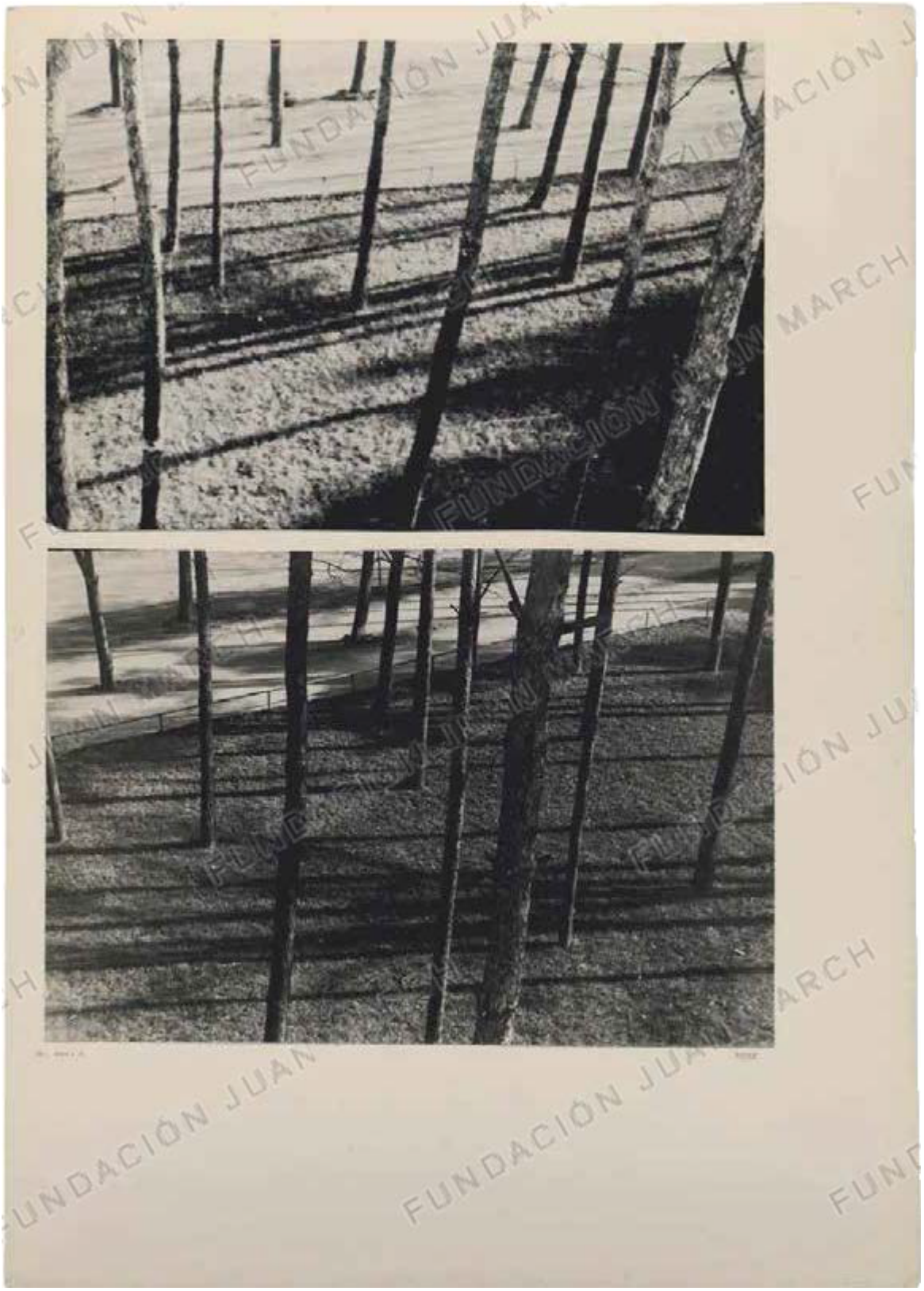
129
Müller apartment furniture, ti 244, armchair, 1928
Bent ash wood, veneered, flecked horsehair fabric (restored).
27⅛ x 24 x 27¹⁵⁄₁₆ in (69 x 61 x 71 cm)
Stiftung Bauhaus Dessau



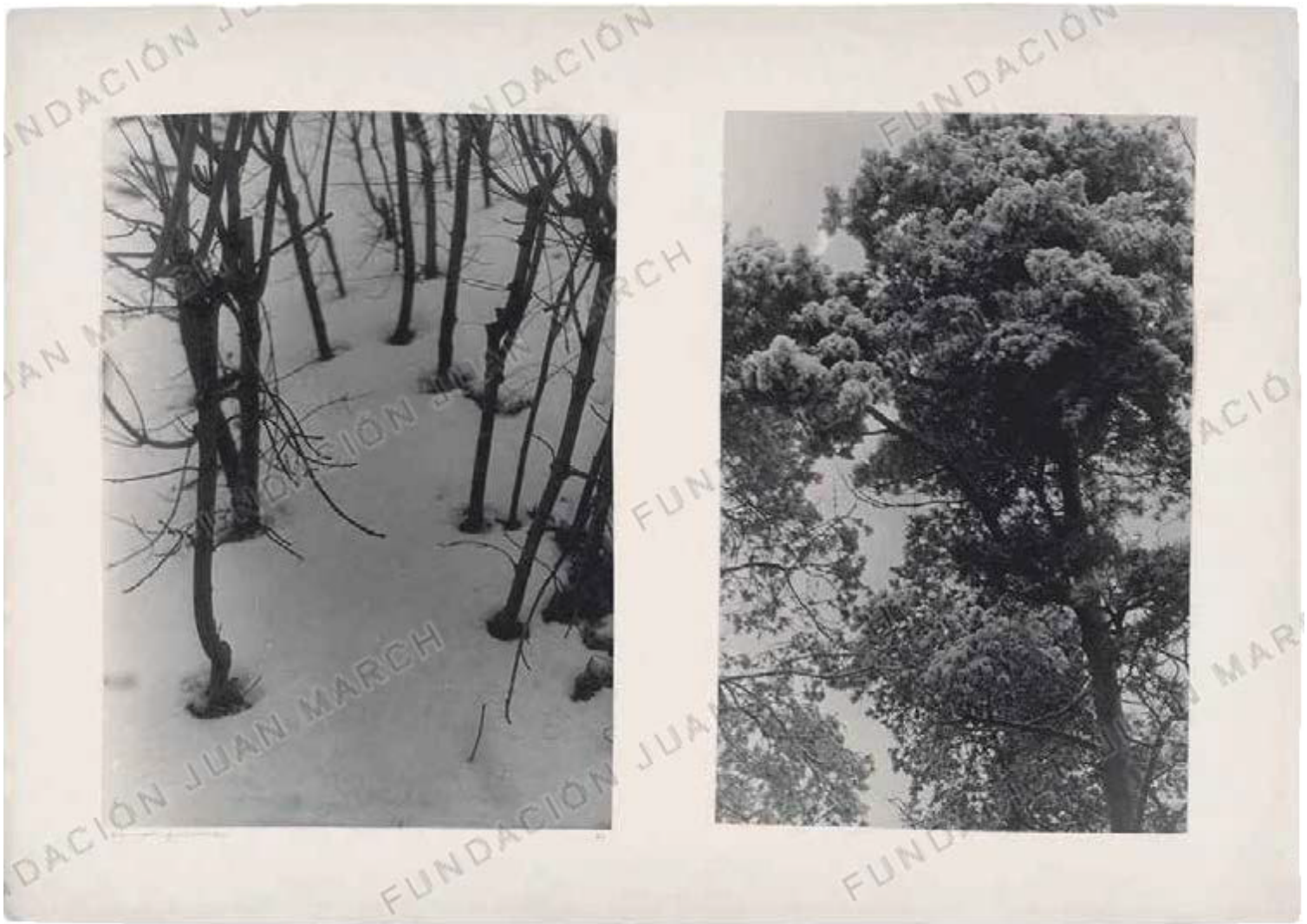
132
*Mittelberg XII 1928*, 1928
Two gelatin silver prints, mounted on paperboard.
11 ⅝ x 16 ⅛ in (29.5 x 41 cm)
Solomon R. Guggenheim Museum, New York.
Gift of The Josef and Anni Albers Foundation, 1996

135
*Hotel Stairs Geneva, 1929*, 1929
Photo collage. 11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany

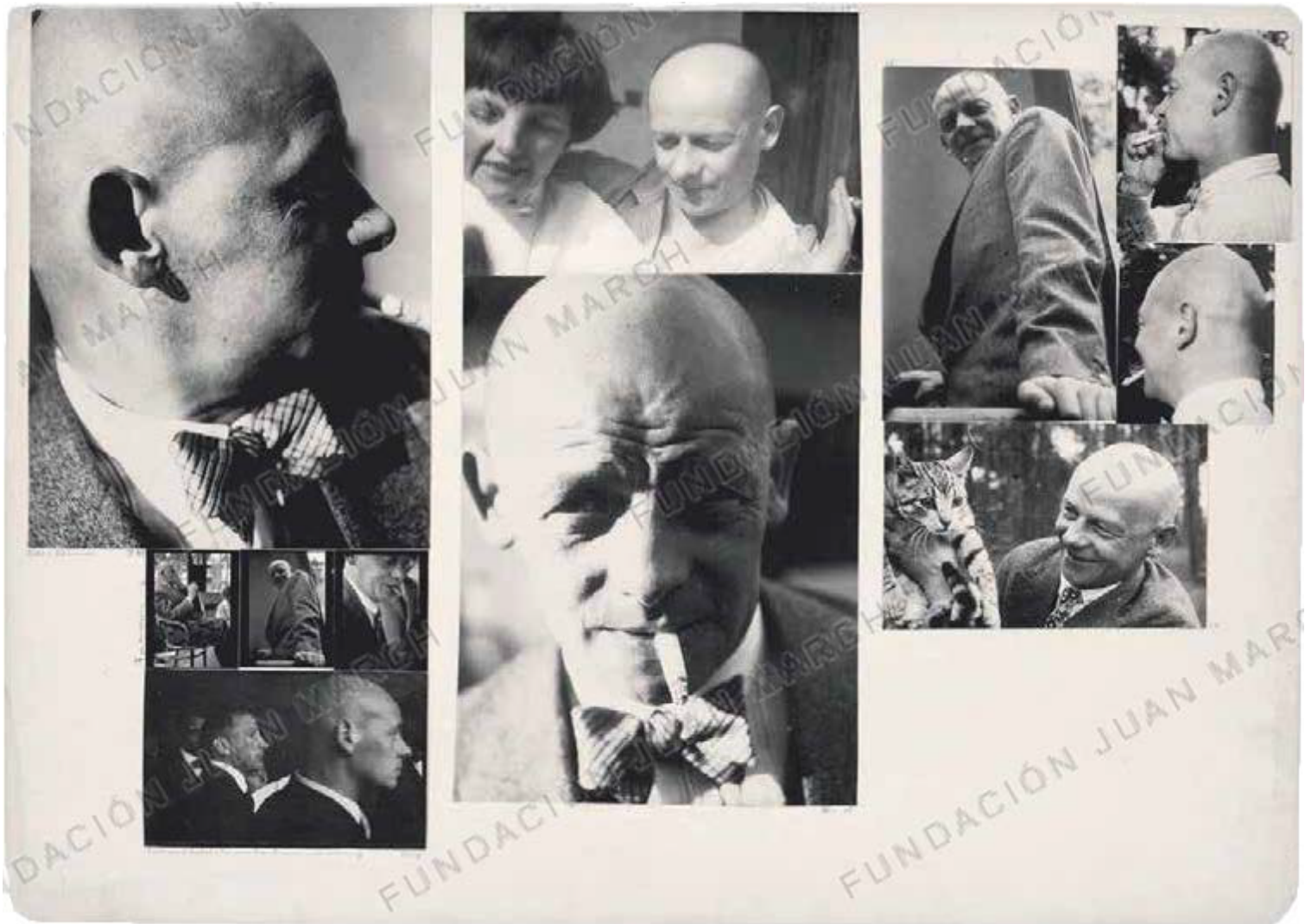
133
*Bei Haus 2* [At Home 2], 1928–1929
Two gelatin silver prints, mounted on paperboard.
16 ⅛ x 11 ⅝ in (41 x 29.5 cm)
Solomon R. Guggenheim Museum, New York.
Gift of The Josef and Anni Albers Foundation, 1996



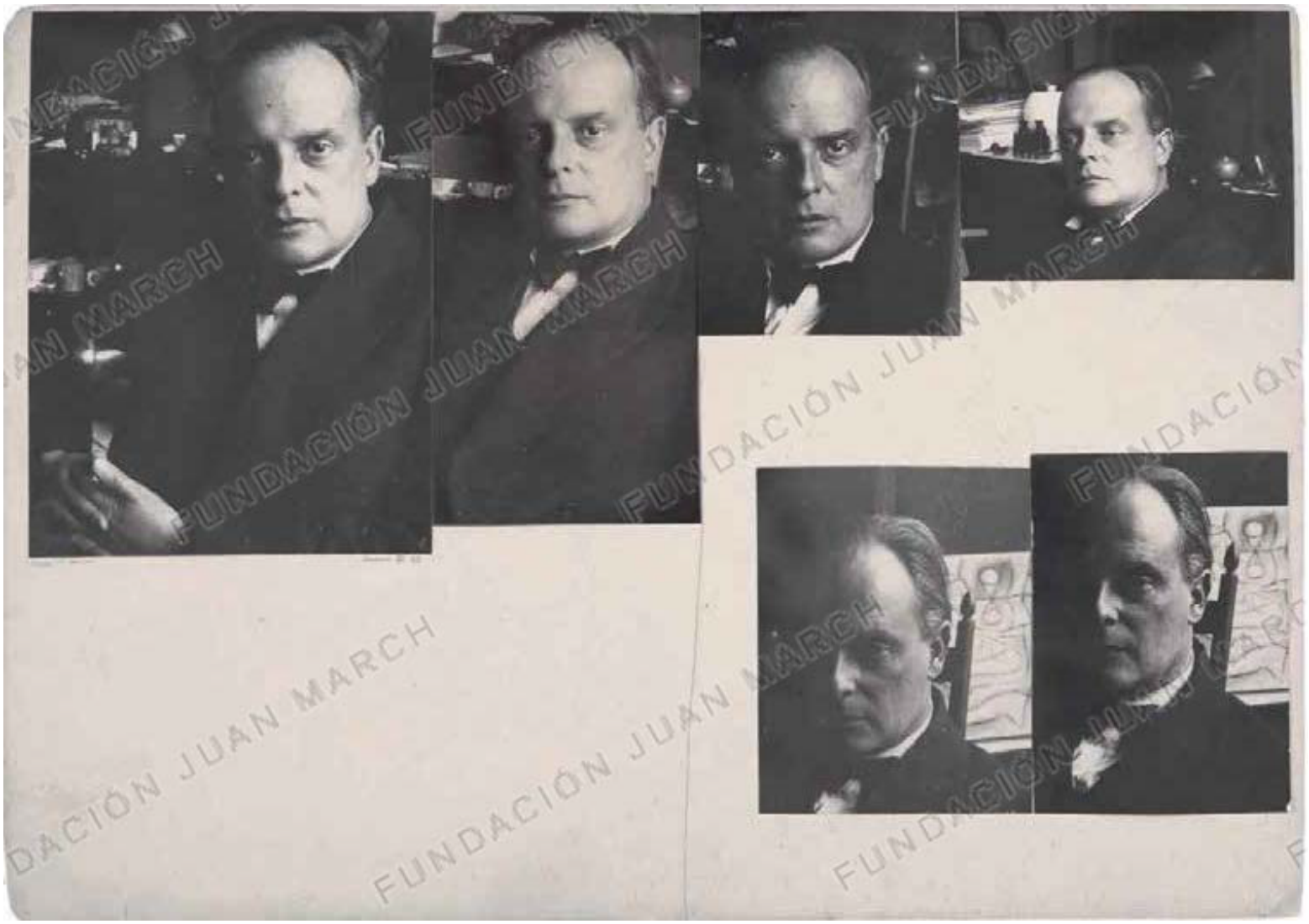
134
*Flooded Trees and Pine Forest*, n.d.
Photo collage. 11 ⅝ x 16 ⅛ in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany



136
*Wannsee. Great Lake Road '31*, 1931
Photo collage. 11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany



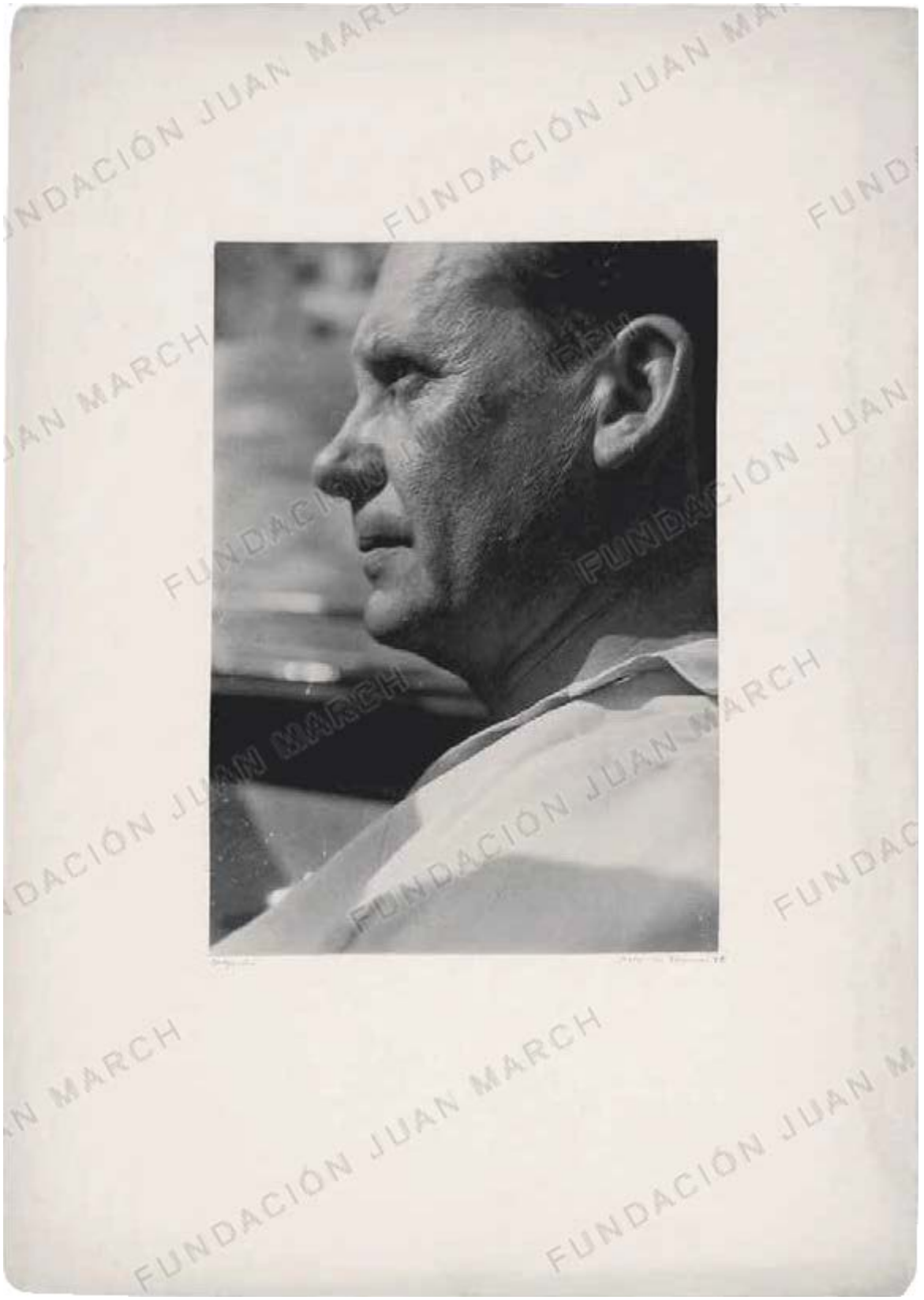
137
*Oskar Schlemmer IV, 29; in the Master Council '28; [Hans] Wittwer, [Ernst] Kallai, Marianne Brandt, Preliminary Course*, 1927
Photo collage. 11 ⅝ x 16 ⅛ in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany



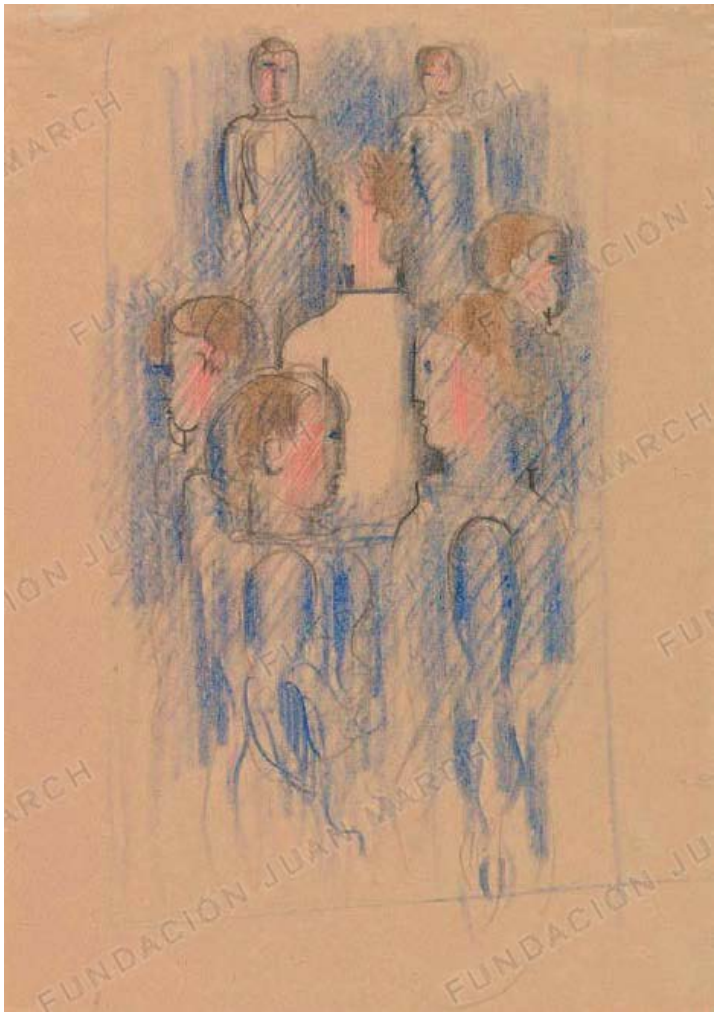
139
*Klee in the Atelier Dessau XI, 1929,* 1929
Photo collage. 11 ⅝ x 16 ⅛ in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany

138
*Kandinsky Spring 1929, Master on the Terrace at H. M.'s [Hannes Meyer's]; May '30*, 1929
Photo collage. 11 ⅝ x 16 ⅛ in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany

141
*Mies with Ozenfant (Ludwig Mies van der Rohe with Amadee Ozenfant in the Bauhaus Dessau)*, 1931
Vintage photograph, albumen silver print, glossy. 4 7/16 x 2 ⅝ in (11.3 x 6.6 cm)
Stiftung Bauhaus Dessau



140
*Walter Gropius, Ascona Summer 30*, 1930
Photo collage. 16 ⅛ x 11 ⅝ in (41 x 29.5 cm)
The Josef and Anni Albers Foundation, Bethany

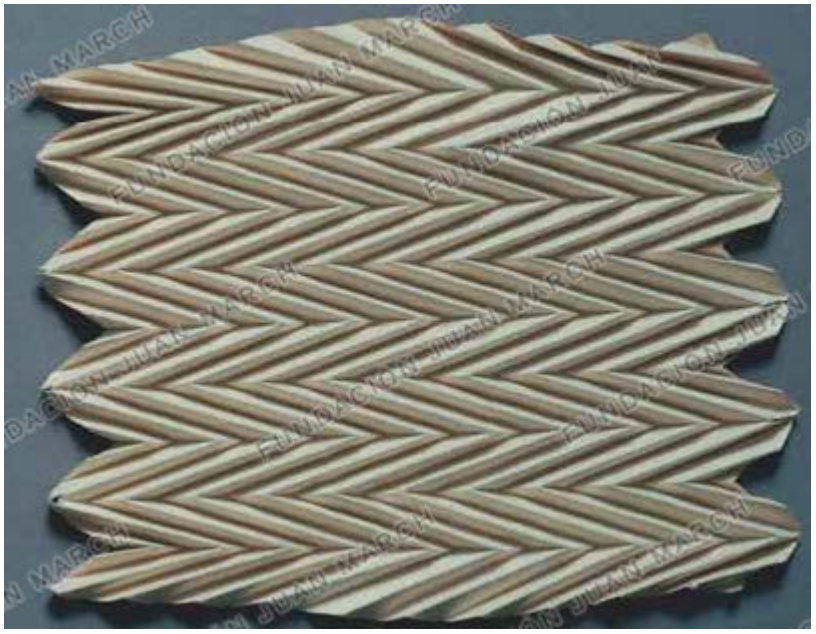


143
Oskar Schlemmer
*Blaue Gruppe* [Blue Group], 1932
Colored pencil on paper. 8 ¾ x 6 ⅛ in (22.2 x 15.6 cm)
The Josef and Anni Albers Foundation, Bethany

144
Wassily Kandinsky
*Untitled*, 1932
Ink on paper. 19 ⅝ x 16 ⅛ in (49.8 x 41 cm)
The Josef and Anni Albers Foundation, Bethany

145
Paul Klee
*Untitled Drawing*, 1938
Ink on paper. 8 3/16 x 5 13/16 in
(20.8 x 14.8 cm)
The Josef and Anni Albers
Foundation, Bethany

147
Konrad Püschel
Sphere. Material exercise from
Josef Albers' class, 1926–1927
Paper, cut and interlocked.
Diameter: 4 5/16 in (11 cm)
Stiftung Bauhaus Dessau



146
Konrad Püschel
Hip folding. Material exercise from
Josef Albers' class, 1926–1927
Drawing paper, scored and folded.
9 7/8 x 9 7/8 in (25 x 25 cm)
Stiftung Bauhaus Dessau

148
Konrad Püschel
Two spheres. Material exercise from
Josef Albers' class, 1926–1927
Paper and cardboard, cut and interlocked.
Diameter: 4 ¾ in (12 cm)
Stiftung Bauhaus Dessau

149
Konrad Püschel
Three spheres fitted together. Material
exercise from Josef Albers' class, 1926–1927
Paper and cardboard, cut and interlocked.
Diameter: 6 5/16 in (16 cm)
Stiftung Bauhaus Dessau



150
Walter Tralau
Preliminary course work, W. Tralau paper, 1926
Vintage photograph, albumen silver print, glossy, mounted on cardboard. 4 3⁄16 x 3 in (10.6 x 7.7 cm); 11 ½ x 8 ⅛ in (29.3 x 20.7 cm)
Stiftung Bauhaus Dessau

152
Walter Tralau
Paper study by Walter Tralau from the preliminary course with Josef Albers, 1926
Vintage photograph, albumen silver print, matte, mounted on cardboard. 4 ¼ x 3 ⅛ in (10.9 x 8 cm); 11 ½ x 8 ⅛ in (29.3 x 20.7 cm)
Stiftung Bauhaus Dessau

151
Herbert Wegehaupt
Material study from the preliminary course with Josef Albers, 1926
Vintage photograph, albumen silver print, glossy, mounted on cardboard. 3 3⁄16 x 4 ⅜ in (8.1 x 11.1 cm); 11 ½ x 8 ⅛ in (29.3 x 20.7 cm)
Stiftung Bauhaus Dessau

153
Lotte Stam-Beese
Construction and solidity study by Paul Kempfer from the preliminary course with Josef Albers, 1926–1927
Vintage photograph, albumen silver print, matte.
4 ⅛ x 3 in (10.5 x 7.6 cm)
Stiftung Bauhaus Dessau

154
Edmund Collein
Construction exercise (glass) from the preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, glossy.
3 ⅝ x 3 in (9.2 x 7.6 cm)
Stiftung Bauhaus Dessau

155
Edmund Collein
Construction exercise (glass) from the preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, glossy, mounted on black album card. 3 ⁹⁄₁₆ x 2 ¾ in (9 x 6.9 cm)
Stiftung Bauhaus Dessau

156
Edmund Collein
Construction exercise from the preliminary
course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print,
glossy. 4 ¼ x 3 ⅜ in (10.8 x 8.5 cm)
Stiftung Bauhaus Dessau

157
Edmund Collein
Constructive-rhythmic material exercise from the
preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, glossy,
mounted on black album card. 4 x 3 in (10.1 x 7.5 cm)
Stiftung Bauhaus Dessau

158
August Rauh
Studies from the preliminary course
with Josef Albers, 1927–1928
Vintage photograph, albumen silver print,
black-and-white, glossy. 4 7/16 x 6 1/8 in
(11.3 x 15.6 cm)
Stiftung Bauhaus Dessau

159
Erich Krause
Material studies (metal) from the preliminary
course with Josef Albers, 1928–1929
Reproduction, albumen silver print on Agfa
Lupex, matte. 4 3/8 x 6 1/8 in (11.1 x 15.6 cm);
5 1/16 x 7 in (12.9 x 17.7 cm)
Stiftung Bauhaus Dessau

160
Moses Bahelfer
Paper works from the preliminary
course with Josef Albers, 1929
Vintage photograph, albumen silver
print, glossy. 4 5/8 x 6 7/16 in (11.7 x 16.4 cm)
Stiftung Bauhaus Dessau

165
Unknown
Yale University Art School color study. Afterimage study, 1958–1960
Color-aid paper on mat board. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

162
Unknown
Yale University Art School color study, 1951–1963
Color-aid paper on cardboard. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

161
Fred Umminger Jr.
Yale University Art School color study, 1951–1963
Color-aid paper on cardboard. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

163
Unknown
Yale University Art School color study, 1951–1963
Color-aid paper on cardboard. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

167
Andrew Bartholomew
Yale University Art School color study, 1956
Color-aid paper on cardboard. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

164
Livingston
Yale University Art School color study, 1958–1960
Color-aid paper on mat board. 14 x 11 in (35.5 x 28 cm)
The Josef and Anni Albers Foundation, Bethany

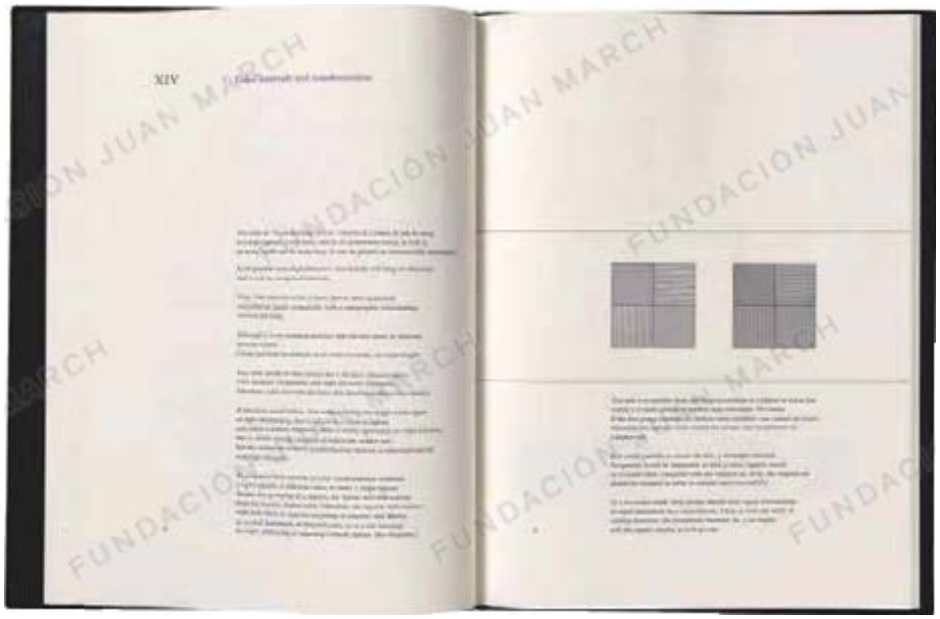
166
Unknown
Yale University Art School color study, 1951–1963
Color-aid paper on mat board. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

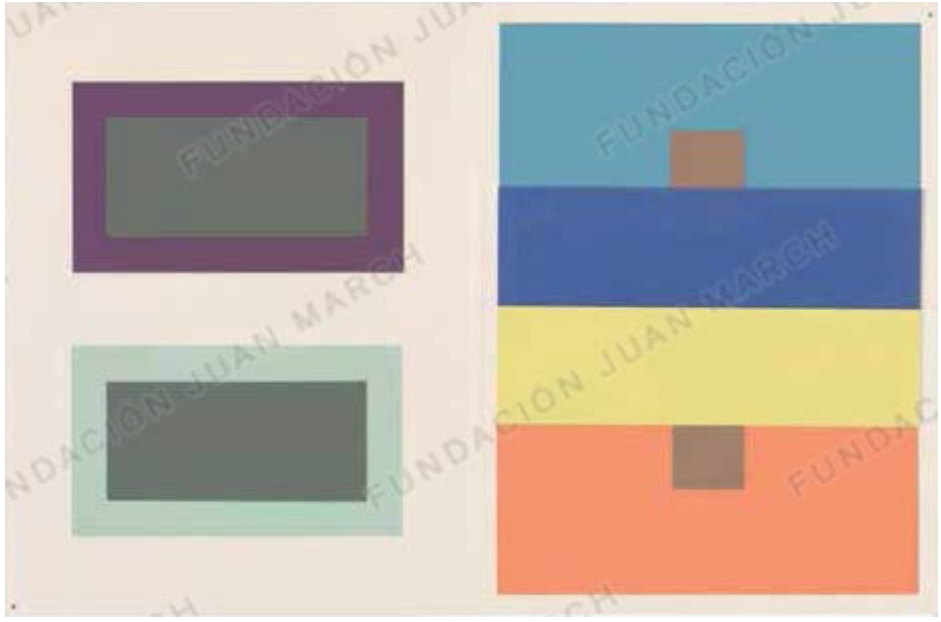
168
Susan Draper
Yale University Art School color study, 1956
Color-aid paper on drawing paper on mat board. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

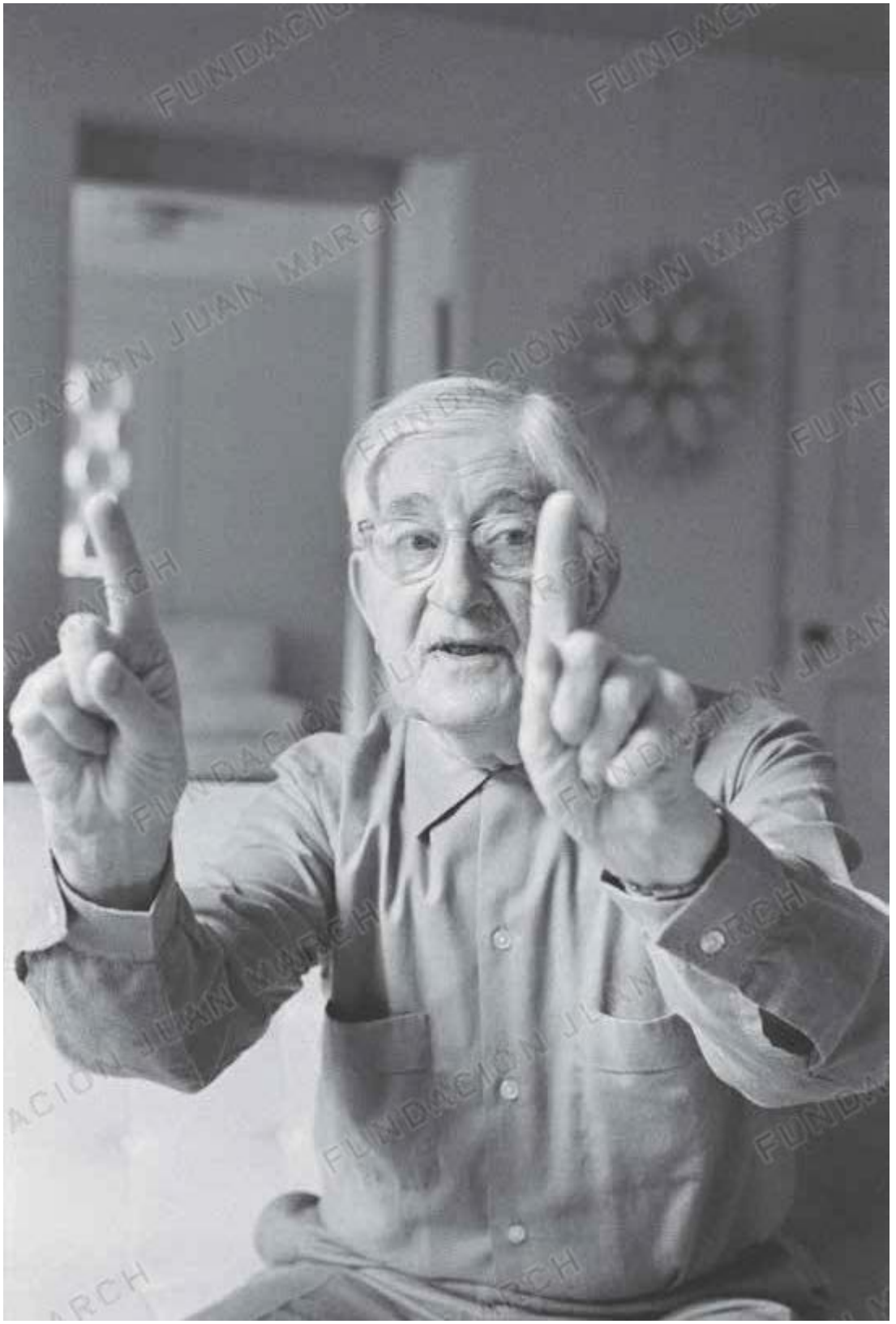
169
Bauer
Yale University Art School color study, 1951–1963
Color-aid paper and drawing paper on mat board.
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

170
J. W. McCullough
Yale University Art School color study: Optical mixture, 1951–1963
Magazine clippings and drawing paper on construction paper. 14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany

171
*Interaction of Color*, 1963
Boxed set with 80 color folios and commentary.
New Haven and London: Yale University Press.
5 ⅞ x 17 ⅝ x 11 ⅛ in (14.9 x 44.8 x 28.3 cm)
The Josef and Anni Albers Foundation,
Bethany



Josef Albers,1968.
Photo: Henri Cartier-Bresson

# Josef Albers. An Anthology
1924–1978

# Contents

# Josef Albers. An Anthology 1924–1978

Selected and edited by Laura Martínez de Guereñu, María Toledo and Manuel Fontán

Commentaries at the end of each text by Laura Martínez de Guereñu.

## Preface

I.

Josef Albers wrote extensively throughout his career, in addition to his celebrated *Interaction of Color*, a key work translated into twelve languages and re-edited and reprinted on a continuous basis (from the first edition published by Yale University Press in 1963 to the recent app produced by the Josef and Anni Albers Foundation and Yale University Press: https://itunes.apple.com/us/app/interaction-color-by-josef/). Nonetheless, many of his numerous and varied texts – ranging from public lectures and contributions to conferences, talks, replies to questionnaires, aphorisms, anecdotes, short stories and poetic prose to the content of lengthy courses and essays on art and education – continue to be largely unknown to specialists, researchers and the general public.

Even a basic knowledge of the work and personality of Josef Albers reveals an individual with a structured, meditative personality and rigorous convictions. Albers was what is termed in German "ein klarer Kopf," meaning "a clear head." It is therefore easy to suspect (even for those who are non-specialists but who would like to gain a more profound knowledge of this key figure in 20th-century art) that rather than comprising a storehouse of unpublished snippets, unfinished fragments and minor or incidental writings about his principal activities – art and education – the rest of Albers' written output constitutes an ample repertoire of sorts, compiled over the years, of his key ideas, his convictions regarding artistic education and his reflections on his work.

This hypothesis lies at the origin of the selection of texts presented here, together with the desire to reveal the work of Albers primarily as a project firmly committed to economizing form and color. Clearly, little of Josef Albers' writing has been published. The nearly sixty texts, lectures, speeches, statements, aphorisms and poems which have been selected for this anthology offer proof of his intensive activity as a writer, teacher and lecturer. They reflect theoretical concerns

that run in strict parallel to his activities as an artist and convey both Albers' systematic curiosity and the way in which he made full use of ideas in the different versions he prepared for different audiences. We hope that the compilation of these texts over the following pages will contribute to a reconstruction of the theoretical and didactic framework of Albers' work, making it more accessible and thus filling a significant gap in the history of the visual arts and design in the 20th century.

The essential condition for undertaking this endeavor was access to the original texts, most of them unpublished (or published in journals and specialist books with small print runs or difficult to access due to the language in which they were written – the original German – or the time that has elapsed since their publication). This condition was made possible through the invitation extended to Laura Martínez de Guereñu by the Josef and Anni Albers Foundation in Bethany, Connecticut, to undertake a period of research as writer in residence during the summer of 2013. The time that she spent there made it possible for the Fundación Juan March to work on a selection of texts "by" and "on" Albers to be published in the exhibition catalogue that had already been in preparation for a year. During the time she spent in Bethany, Dr. Martínez de Guereñu had access to all the sources and was able to visit the three archives that house the large body of documental material on Albers, undertaking the academic task inherent in all research projects, namely searching for, finding and compiling information.

The task of consulting the archive at the Josef and Anni Albers Foundation, the main "source of sources," was quite different to the selection that had to be made of those documents housed in the Department of Manuscripts and Archives at Yale University Library in New Haven, Connecticut. While the archive at the Josef and Anni Albers Foundation might have initially seemed almost impossible to encompass, containing as it does more than 50.44 m (165 ft 5 ½ in) of documents, its meticulous organization and description (http://albersfoundation.org/resources/archives/overview/) significantly contributed to smooth the way for the initial approach and subsequent access to these sources. The Yale archive did not facilitate the researcher's task to the same degree. Although it extends along significantly less floor space (5.03 m or 16 ft 6 in), the almost total absence of precision in the search engine (http://hdl.handle.net/10079/fa/mssa.ms.0032) and the random organization of the documents meant that the archive had to be perused in its entirety. Nonetheless, the discoveries made were substantial in both cases, making it possible for us to print here, for the first time, many previously unpublished texts such as "Constructive Form" (1934), "Truthfulness in Art" (1937) and the note of thanks from Josef Albers to Walter Gropius (ca. 1950).

Finally, the third "source of sources," the Archives of American Art at the Smithsonian Institution in Washington D.C., houses far less documents (extending over 45.7 cm or 1 ft 6 in) but ones of no less importance. This archive yielded extremely significant texts such as the manuscript "Why I Favor Abstract Art" (1936) or a copy of the exhibition catalogue of the work of five Bauhaus masters (Josef Albers, Lyonel Feininger, Wassily Kandinsky, Paul Klee and Oskar Schlemmer) held at the Kunsthalle in Basel in 1929, an event that marked Albers' definitive recognition as an artist, exhibiting alongside his colleagues and teachers.

II.

Back in Spain, the second phase of the project consisted of dating and organizing these texts and above all of carrying out a detailed reading of each one. This work was jointly undertaken by the three members of this team, whose considered, debated and agreed-upon decisions led to the selection of texts presented here.

The widely differing nature and lengths of these writings encouraged the decision to opt for a basic structure that would only distinguish between texts "by" Albers and texts "on" Albers without introducing a further category of lectures and articles. In addition, the artist's teaching activities that ran alongside his creative endeavors (he was the only 20th-century artist to have been a student and master at the Bauhaus, a teacher at the educationally experimental Black Mountain College and finally a professor at Yale) led to the organization of the artist's writings in blocks that correspond to the periods associated with these different teaching institutions: the Bauhaus between 1924 and 1933; Black Mountain College between 1933 and 1949; and Yale University between 1950 and 1960, ending with a final section of Albers' late texts (1961–1976). This simple, intuitive and easily comprehensible structure reveals the continuity of the artist's ideas and a certain homogeneous evolution in many of his theoretical, pedagogical and of course artistic concerns. Albers' disregard for the excessive emphasis on a historicizing approach to art history, his appreciation of technical skill and of a work well done, his committed defense of experimentation and a certain spiritual austerity are all present in his first texts from the Bauhaus years. The Black Mountain College period reveals itself here as Albers' most prolific one, during which he produced more than half of his written work.

III.

This selection of texts has been made in accordance with the importance of their content and with regard to the extent to which they appear in the modern bibliography on Albers. Twenty-four of them have never been published before while another ten have only appeared in publications that are difficult to locate.

The final result is also important with regard to translation. Apart from "Teaching Form through Practice" (1928), the Bauhaus texts

have been translated into English for the first time. All the texts from the Bauhaus and Black Mountain College periods have also been translated into Spanish for the first time (for the Spanish version of this catalogue), with the sole exception of the two lectures given in Cuba, which had not been published previously in English (or German). None of the Yale period texts had previously been translated into Spanish with the exception of four definitions: "The Origin of Art," "On My Work," "The Color in My Painting" and "On My Homage to the Square," of which there were previous translations.

As noted above, the structure of this anthology reveals a gradual evolution devoid of abrupt shifts or radical changes of conviction in the texts. Those from the Bauhaus period refer to fundamental issues of knowledge and creativity, economy in the printed form, experimentation and teaching. The subsequent ones, from the Black Mountain College years, are more pedagogical and universal in content, on occasions adopting a moral, social and political tone given that they are primarily lectures, talks, speeches and papers given at conferences. The Yale period is rich in statements, definitions, poems and short texts, while the trilogy of lectures that make up *Search Versus Re-Search* (1965), which sums up all of Albers' essential concerns, is the central work from the last period. A short text written to celebrate the centenary of the birth of Wassily Kandinsky (1966) draws this section to a close.

IV.

Josef Albers did not generally write about the work of other artists, nor did he make overt use of the ideas of great thinkers. In the more than sixty texts by Albers published here there are few textual quotations or references. The ones to be found, however, are of a carefully considered and selected nature, and include Plato, Aristotle, Thomas Aquinas, John Ruskin and Alfred North Whitehead. Particularly revealing in this sense is "A Second Foreword" (1936), probably written for a Black Mountain College catalogue, in which Albers distinguishes between two types of books: those that open with a quotation and those that generate quotations. Given that he himself was a prolific creator of maxims and pithy phrases, it is logical that his texts only include one in which he explicitly quotes the work of another artist, one whom he profoundly admired. It has been chosen to conclude the section on texts by Albers.

Albers' text on Wassily Kandinsky, the last in the first section of this anthology, is followed by the group of texts on Albers, which, with felicitous symmetry, opens with the text that Kandinsky wrote on Albers in 1934. A further thirteen texts, selected for the importance of the authors or that of their relationship to Albers, completes this group. Thirteen of them were written during his lifetime; the last, by Richard Buckminster Fuller (1978), after his death. Two of them had never been published before. Most of them were originally written in English or translated from German, with the exception of the text by Kandinsky, which was originally published in Italian with the title "Omaggi a Josef Albers" (1934); the one by Robert Le Ricolais, written in French and entitled "Reflexions sur les graphismes de Josef Albers" (1967); and the one by Jean Clay, also written in French and entitled "Albers: trois étapes d'une logique" (1968).

The two sections of this anthology follow a chronological order. It has not been possible to determine the exact dates of five texts, which have therefore been placed directly after the ones to which they bear the greatest "family resemblance" in each case. Nor has it been possible to find the original title for a further nine, in which case the approximate title appears within square brackets.

Laura Martínez de Guereñu has written the entries at the end of the texts of the two sections. These summaries or critical commentaries locate each text in its context, provide information on the archives in which the original typescripts are found, the editions (journals, magazines, school bulletins, books, exhibition catalogues) in which they have been published, re-published or reprinted, and/or the places in which they were presented as lectures or seminars. Most of the entries on texts by Albers also include notes that relate the writings to others of similar content and subject, and based on the archival research carried out in the three sources – many times relying on correspondence – significant information about the time in which the texts were written is provided. The section of texts on Albers also includes a short presentation of each of the fourteen authors, foregrounding the relationship between them and Albers. In the case of those authors who exchanged letters with or visited Albers, information on the archival location of the correspondence between them as well as dates of visits to the Albers' house in Orange, Connecticut, is furnished.

The publication of all this valuable documentary material would not have been possible without the support of Nicholas Fox Weber and Brenda Danilowitz, who expressed their confidence in this project from the outset, and without the meticulous editing undertaken by Erica Witschey. Our thanks also go to Jeannette Redensek, who kindly checked the commentaries on the texts.

We very much hope that this comprehensive but by no means definitive selection of texts for the catalogue *Josef Albers: Minimal Means, Maximum Effect* does justice (in a way typical of Albers) to the exhibition's title. In fact, we consider that its lengthy and complex elaboration has been carried out with great economy of means when compared to the enormous increase in the dissemination of knowledge that the group of texts assembled here may generate with regard to Josef Albers' work and our understanding of modern and contemporary art.

Josef Albers and students during a critique at the Bauhaus in Dessau (detail), ca. 1928–1929. Photo: Umbo (Otto Umbehr)

# Texts by Josef Albers

## I. BAUHAUS 1924–1933

Editor's note:

Bauhaus masters often coined words and created phrases to express ideas and meanings for which there was no adequate provision in German. When Albers moved to the United States and began writing in English, he continued to use neologisms and a condensed phrasing that seemed to be aiming at a scientific mode of expression and resulted in a peculiar style all his own. For the sake of intellectual integrity, the documents in this section are faithful reproductions of his writings in which editing has been circumscribed to correcting typos, spelling (Albers alternated freely between American and British spelling) and punctuation when necessary. His idiosyncratic use of dashes, which in his lectures marked pauses in speech, has also been respected.

### Historical or Contemporary (1924)

Elementary schools were introduced more than a century ago as a way for states to manage their populations. They were meant to integrate the individual into the community, its economy and its values. As communal establishments meant to foster collective order, they were well suited to the times. Today that is not the case. The school's original goal has been abandoned, it is a teaching institution that revolves around a center, its dominant figure, the professor. He imparts what has been established: knowledge, methods, rules, and thus thinks historically. The school is therefore based on ancient standards; in other words, it is Renaissance-oriented, and thus at least three hundred years behind the times.

Given this, the end result of the present-day school is wrong: educated people, not creative ones. Just as Protestantism makes an individualistic community out of a community with identical views – nonsensically – the unchurchy church thus standing on its head, the present-day school attempts to cultivate the individual, the personality, which is not a mass product, however, and which stands above the crowd and thus outside of it and the school. In so doing, it attempts to fulfill non-school tasks (for only the individual himself can develop his personal goals).

In fact the individualistic school has brought us the era of party newspapers and party affiliation, even the call for the great Führer. Thus individualistic education has made the masses helpless.

In addition to its main goal of educating the populace, the old school sought to impart skills, but few in number and limited to the basics: reading, writing, arithmetic. Today it seeks knowledge, hence the emphasis on scientific disciplines taught through lectures, note-taking and copying, reading assignments, tasting this and that but never feeling satiated. The ablest pupils are called students; they go on to make yet one more book out of many, are then called doctors, and instruct more students. Teaching goes in circles.

Passing something along with no increase in value is called profiteering. So today's school is producing profiteers instead of

producers. Instead of allowing creativity it demands note-taking, and thus ends circularly as a notice on a quantity of notations: in the examination. In this way it produces managers, not creators, and consequently breeds officialdom, which is in fact what comprises the present-day state, in which the clerk, without producing anything of his own, ranks higher than the worker whose production he records.

As a state institution, the school thus determines the appearance of the state. The official, unproductive school achieves the managerial state. Thus Europe is by way of becoming a museum, with only attendants, guides, secretaries, conservators, restorers. A place of historic interest to America, which has mainly taken over creativity for itself.

The young people of today are aware of this false direction: that further emphasis on individuality in education brings intolerable fragmentation; that historical knowledge inhibits production; and that listening to teachers without being allowed to forget anything amounts to taking nourishment without the subsequent bowel movement, and that the alternative, vomiting it up in an examination, is unhealthy. Sons find themselves in opposition to cultured fathers, they form alliances with unifying goals forgotten by the school. Dissatisfaction with existing lifestyles makes them long for other ways of life. The dynamism behind this is generally referred to – falsely – as the youth movement. Falsely, because for the most part they are circling, since they are looking to life in the past. Revolving around old songs or dances around the village linden tree, mercenary soldiers' boots or Schiller collars. Even taking as guides old men and generals, who in turn favor them with the cultivation of youth.

Insert such outmoded things into life today and you get the most symptomatic caricature: station masters wearing Schiller collars, pilots with Teutonic manes of hair, campfire cooking in Hamburg's harbor, guitar strumming in the underground. You can't deal with what is wrong with life by repudiating the automobile and the cinema and the gramophone and the machine as long as you live in a house, wear clothes, use plumbing and electric light, take trains and read books, because you're not simply a naked creature in some jungle paradise.

In short, we cannot bring dead times back to life. What has once been chewed cannot be eaten again, what has already been said does not necessarily apply to us. We have to find our own solutions. Taking inspiration from the good old days, enjoying them, learning from them, is good. But doing that alone means forgetting oneself. Singing only *Minnelieder* also obligates you to use clay instead of soap – or not to wash at all. Enjoying and knowing is not working. Too much history leaves little room for work. Turning this around: a little history – a lot of work, is what we're after. Particularly in view of the fact that the previous generation, with no form of its own, finds its greatest pleasure in the collecting of antiquities.

In making such a correction, ceasing to give priority to history so as to walk on our own two feet, speak with our own mouths, we need not fear the disruption of organic development. The necessary convention will not be lacking, as it is in our blood, where the law of inertia brakes a man so powerfully. If the so-called new is met with general hostility at the beginning, that cannot upset us if we recall that Rembrandt and railways were also rejected at first.

Liberation from the conceit of individuality and what is taught can easily be seen as leveling. However a more important result outweighs that danger: unification. If we all wear the same clothing, that indicates that our houses, our larger protective covering, do not have to be highly varied. (All early cultures had types of houses that made for uniform streets and cities.) Most of the articles we use today are mechanically produced, fabricated. We are on the way to improving our lives thanks to the extremely economical production of utensils that function well. To encourage this, schools should allow a great deal to be learned, that is, they should teach little. Each person should be allowed to test his abilities in every way possible, so that he might find the place in constructive life that suits him.

The Bauhaus is meant to be a step in that direction. It was created as the combination of a college of fine arts and a school of applied arts. Its mission was recently formulated as follows:

The goal of the Bauhaus is to bring the art training hitherto isolated from practical life into harmony with the actual demands of contemporary life.

To this end it has integrated in its educational program the teaching of theory and workshop activity which is to be performed in accordance with present-day technological industrial working methods. With the point of view that a whole range of related professions or creative endeavors currently working in isolation are all ultimately concerned with building.

Thus "building" is the common goal of the various Bauhaus workshops.

We believe that in our training of creative people we are on the right track, and that our search for the simplest, clearest of forms will make people more integrated and life more genuine, that is to say, more meaningful.

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Originally published in German as "Historisch oder Jetzig?" in *Junge Menschen* 5 (Hamburg), no. 8 (November 1924): 171. This issue of the Hamburg journal was devoted to the Bauhaus Weimar. Reprinted in *Bauhaus Weimar: Sonderheft der Zeitschrift Junge Menschen*, ed. Peter Hahn (Munich: Kraus Reprint, 1980). See also Josef Albers, "Glasschrank," ibid., reprinted in *Form + Zweck* 11, no. 3 (1979): 12. The journal was reprinted as *Junge Menschen: Monatshefte für Politik, Kunst, Literatur und Leben aus dem Geiste der jungen Generation der zwanziger Jahre. 1920–1927*, ed. Walter Hammer-Kreis et al. (Frankfurt am Main: Dipa, 1981). Translated from the German by Russell Stockman.

## On the Economy of Typeface (1926)

Flowing print, that is to say uniformly aligned elements of type, corresponds to flowing speech, to evenly stressed linguistic representation. Its purest use is called for by narrative language.

But we no longer speak in this way. Modern life does not proceed at a steady pace, we can no longer be classical.

Time is money. Events are determined by economics. We live swiftly and move accordingly. We use shorthand and telegram and code. They are not the exception but the rule. We speak tersely, and the exclusive use of expression and gesture as language can no longer be forbidden, as it was with the Greeks.

Because we now have to think in economic terms, we are becoming more and more Americanized. A new world is on its way. America's new libraries have few books but a great many magazines. We are following the same path. We read newspapers more frequently than books. Booksellers are not selling much: who wants to buy a multi-volume work nowadays, and where are the young people who used to spend all day browsing books?

There are already digest journals without articles. Keyword extracts replace numerous articles from equally numerous journals. And of these we prefer the illustrated ones: The picture informs faster and more fully, the page of pictures is registered in seconds. All writing is experiencing intense competition from photography, cinema, and radio.

We have to read quickly, just as we speak tersely.* Thus flowing script can no longer dominate. Accenuated, stressed, underlined, abbreviated, illustrated writing will prevail. Just as in speech the message, the explanation, the exclamation, the program, the acronym, the key word, prevail. We have to be able to register the message of a poster as we speed by in our car or in the tram.

So we are distancing ourselves from the book. And, accordingly, from the kind of type used in books. Most printed products are no longer books. Everyday speech is no longer the language of books, and the concept of "literary language" is virtually passé. Nonetheless, book type and booklike typesetting continue to prevail – erroneously – in non-book printing. Its predominant feature is the uniformly gray block of type, if possible undivided and with no concentrations of black or gray or excess white space.

The inventors of printing did so in tune with the available technology and objectives of their time. Since then, the resources of typography have become vastly richer, its requirements, given our changed needs, very different and antithetical.

Flowing type and gray blocks of print require uniform letter spacing, as Johnston, Larisch, and most calligraphy teachers and professionals also demand of handwriting. Thus certain intermediate values are produced that preclude a precision suited to today's economy. Especially since it is often necessary to calculate the spacing in advance. If the justified line is the only correct one, the typewriter must be producing incorrect type.

With rational times come constructive emphases.

The standardization and schematization of letter forms began with Dürer. They became wider, whereas formerly they were tall and thin. Today, with our different approach to life, it is the line width that is emphasized (especially through the use of bold scripts), just as the horizontal generally dominates in many forms.

The constructive intentions of Dürer and his successors (only applied to letter forms) could not be realized in typesetting as long as the book was still a "literary work." Until it became – only recently – more of a print and press product. Since then the book printer can no longer establish the composition form. That is now the job of the typographer, the new typesetter.

The typographer, like the first book printers, has to come up with a new form that is ours, since what is available to him are mostly outmoded forms. To stand on his own two feet, he has to consider the elements of the design, perhaps even study the classics in order to see how they arrived at their form and why this is no longer ours.

With the reorientation of social sensibilities one cannot acknowledge that one thing is only supporting, the other only supported. Who knows precisely what is more important in the factory, the people who direct it or the men who tend the boilers? In transportation: the ministers or the engineers? It is of no help to place one above or below the other, what matters is the correct assessment of individual elements. Accordingly, attempts have already been made to make paper, the generally white, passive background, more independent. The unprinted parts are not just blanks, but active *negative* spaces, just as in architecture and sculpture empty spaces are positively designed.

The organized interplay between ground and type and the calculated weighting of the degrees of black, gray, and white, combined with a logically responsible dynamism, will determine the new forms. In them all secondary ornament falls away; the essentials, clearly arranged, are what are compelling today. Economy,** and thus technology and commerce, are the reigning values, therefore strict norms are required. Everything demands austerity.

* Today only schools forbid students – wrongly – speaking in incomplete sentences.

** Not only in the material sense, but also in the spiritual one.

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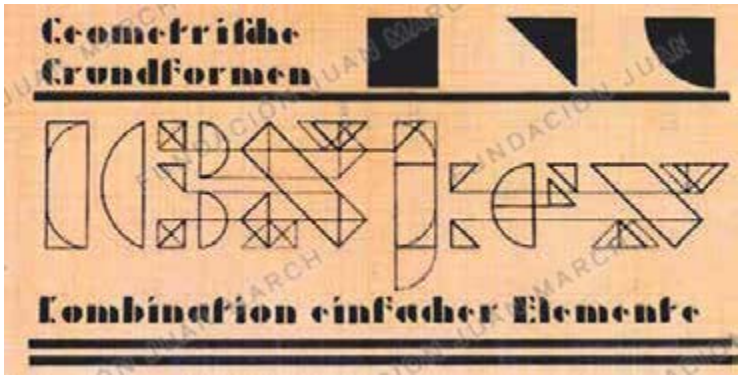


Josef Albers, "Zur Ökonomie der Schriftform: zur Schablonenschrift" [On the Economy of Typeface: On Stencil Typeface], *Offset: Buch- und Werbekunst,* 7 (1926), pp. 395–97

## On Stencil Typeface (1926)

One attempt to standarize typefaces in themselves and in their relation to each other is Stencil type, which is published here for the first time. It does not claim to be finalized, and here asks interested parties for criticism and collaboration.

It is meant to be a font for advertisments and large placards, readily legible from a great distance. With the typefaces most commonly used, clarity is reduced with distance, least perhaps with Egyptienne, which was created as an army type under Napoleon I. The Stencil typeface increases legibility from a distance.

Like Egyptienne and Grotesque in part, Stencil type is composed exclusively of basic geometric shapes, in fact only three: the square, the triangle as the half of it, and the quarter circle whose radius corresponds to a side of the square. The letter elements combined out of these shapes are unconnected: the hairline breaks between them are determined by their relative sizes and by the movement relationships of the purely two-dimensional elements.

The standard proportion is 1:3. The height of the main ascender is three times its width. The spaces within letters are 1/3 of the width of the ascender. The sides of the triangle (a square divided diagonally in two) equal 2/3 of the side of the basic square. The minuscules measure 2/3 of the height of the ascenders. The intervals between letters are uniform throughout, so there is no balancing or adjustment to be made as is otherwise customary with rounded shapes. The horizontal bar extends on either side a distance equal to the internal space. Therefore, and thanks to its composition out of identical elements, the typeface proportions are standardized. There results a standardization of the type dimensions. The letters and bars are thus precisely divisible in purely mechanical fashion.

The line requires no tracking and remains unjustified, it is no longer adjusted to the width of the print block.

The seemingly unequal spaces (the fat) between letters and words are no longer exceptions, but rather distributed across the print field. They enliven it just as capital letters did within a word in the Baroque period. Thus typesetting in justified blocks is abandoned. The vertical alignment of lines can be either on the left or the right or not at all, perhaps even changing between paragraphs. Inconsistent vertical alignment on the left makes it easier for the eye to read over into the next line. With long lines in blocks of justified text the eye often skips to the wrong line or returns to what has already been read. Before or after an indented line the eye never errs, because it unconsciously notes the space. Vertical alignment to the left makes finding the beginning of the line more difficult.

The standardization of the letter elements makes it possible to reduce the letter to its basic elements, especially in large type.

The range of setting material is significantly reduced, and offers segments for lines and blocks, arches, circles, etc.: in sum, for miscellaneous material used for emphasis.

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Originally published in German as "Zur Schablonenschrift" in *Offset, Buch- und Werbekunst* (Leipzig), no. 7 (1926): 397. Special Bauhaus edition of the journal. Reprinted in *Bauhaus-Heft der Zeitschrift "Offset-, Buch- und Werbekunst,"* ed. Peter Hahn (Munich: Kraus Reprint, 1980). Translated from the German by Russell Stockman.

## Teaching Form through Practice* (1928)

Ours is an economically oriented age.

In earlier times, world-view was more important.

Today, nobody can exist without considering economics: we are concerned with economic form. Also because the need for rational design necessarily follows the previous overemphasis on emotion or historical forms. (Because, like clothes, forms also wear out.)

Economic form arises out of function and material. Study of material naturally precedes understanding of function. Thus our attempt to come to terms with form begins with study of the material.

In many cases, the productive handling of materials has been determined by techniques with a long tradition. This is why education in the crafts consists mostly of the transmission and acceptance of established methods of working.

This narrow training leads to a loss of creative freedom; it stifles invention. But invention – and also reinvention – is the essence of creativity.

Once experienced, invention becomes a lasting spiritual possession, and gaining this experience for oneself is the training one needs to create form; to work at the language, the expression of the time.

Learning and practicing techniques develops insight and dexterity, but not creative energies.

Inventive construction and an attentiveness that leads to discoveries are developed – at least initially – through experimentation that is undisturbed, independent, and thus without preconceptions. This experimentation is (initially) a playful tinkering with the material for its own sake. That is to say, through experimentation that is amateurish (i.e. not burdened by training).

Many of the most important discoveries have been made by amateurs – innovations are initially rejected by the experts – pioneers are very often non-professionals, or they often begin outside the profession.

Experimentation skips over study and a playful beginning develops courage. Thus we do not begin with a theoretical introduction: at the beginning there is only the material, if possible without tools. This procedure leads naturally to independent thinking and the development of an individual style.

In order to achieve intimate contact with the material through one's own fingertips, the use of tools is initially limited. In the further course of instruction, limitation of the range of possible applications is gradually introduced. The most common ways of working with the material are noted, and, because they already exist, they are forbidden. Example: Outside (in handicrafts and industry) paper is employed mostly lying flat and glued, whereby one side of the paper loses its expression, and the edge is almost never used. This is the reason why we use paper standing, uneven, mobile sculpture, both sides, with an emphasis on the edge. Instead of gluing it, we bind it, stick it into things, sew it, rivet it, i.e. fasten it in other ways and test its performance under tension and pressure.

Thus we intentionally handle materials differently from the outside world, but not as a matter of principle. Not to make something different (in which case we would be focused mostly on the norm), but rather to make it in a different way (whereby we stress the method). That is to say: not to imitate, but rather to seek on our own and to learn how to find independently – constructive thinking. (Later we glue paper as well, but not extensively and not initially, and only if other methods have been tried first.)

Preference for materials or constructive elements for which a use or application does not exist, or that we do not know how to handle, leads to an unusual heightening of autonomy. For example: building with corrugated cardboard, wire mesh, cellophane, transparent plastic, labels, newspapers, wallpaper, straw, gum, matchboxes, confetti and paper streamers, gramophone needles, and razor blades.

Looking over the results of these experiments, we often realize afterwards that seeming innovations already exist. But the result is the student's own experience and possession, because it has been learned rather than taught.

Learning is better than teaching because it is more intensive: the more we teach, the less students can learn.**

We know that this emphasis on learning is a longer path, one that leads to detours and dead ends. But beginnings are never straightforward, and learning from one's mistakes fosters progress. Deliberate detours and allowing oneself to become lost in a controlled fashion sharpen one's critical faculties, lead by way of mistakes to that which is more intelligent, call forth the will to find the right and better way.

Often it is easier for students to share experience gained through tinkering than for the older, remoter teacher to transmit it. Thus we test our results by discussing and defending them as a group. In this


*bauhaus. Zeitschrift für Gestaltung* (Journal of Design), year 2, double issue 2/3, 1928
Letterpress on glossy paper, wire staples
11 ¾ x 8 ¾ in (30 x 21 cm)
Stiftung Bauhaus Dessau [cat. 131]

way, experiences that seem foreign but turn out to be closely related are assimilated simultaneously. Individual and group critiques require a well-founded justification of the choice of material, procedure, and form. The relationship between expenditure and effect is the measure of success. Beyond their sum, one element plus one element must yield at least one interesting relationship. The more various the relationships that arise and the more intensive they are, the more the elements intensify one another, the more valuable the result, the more fruitful the work.

This points to a main feature of our curriculum: economy. Economy in the sense of parsimony in relation to expenditure (material and labor) and the best possible exploitation with regard to the effect.

Economy becomes practical in that students plan as much as possible before execution. (Thinking things over is the cheapest way to avoid waste.) Consent to the use of new materials depends upon the students' remaining true to the objectives of the project. As much as possible, materials are to be used without waste, without cutting. Preliminary experiments are made in the smallest possible form, and in the case of valuable materials, using cheaper substitutes.

Economy leads to a stressing of lightness: surface trumps volume in its efficiency (solid body – hollow body), and likewise we are more interested in linear (graphic) construction (half-timbering – transparent scaffold); the use of the point is most interesting of all (emphasizing and connecting points).

If such mathematical elements are achieved negatively, i.e. as empty or volumetric relationships, then heightened interest, stronger effect, and greater unity are generated.

The activation of *negativa* (of remainders, intermediate, and negative values) is perhaps the only entirely new, perhaps the most important aspect of contemporary interest in forms. But few have noticed this yet – the word has yet to get around – because the sociological parallels have not been noted. (The sociological reasons for seeking these forms today deserve more extensive discussion here and elsewhere.) If one gives equal consideration and weight to *positive* and *negative* values, then there is no "remainder." Then we no longer draw distinctions between "carrying" and "being carried"; we no longer admit divisions between "serving" and "being served," between "decoration" and "that which is decorated." Every element must simultaneously help and be helped by the whole, support and be supported. In this way, base and frame disappear – and thus also the monument, which employs an excess of substructure to support a dearth of superstructure.

Nothing of any kind may remain unused; otherwise, the calculation is wrong. Because chance has played a role. Nobody is responsible for chance, and thus chance is irresponsible, not to mention mindless, because it arises out of habit.

The rigorous monitoring of one's own work I have described carries a justifiably high price: discipline as both precept and outcome. Clean

Foldings
Positive-negative foldings from a single sheet, with no waste, ca. 31 1/2 to 35 1/2 in (80 to 90 cm) tall
Left: only right-angle folding. Lotte Gerson
Right: bending and folding, illusion of penetration. Gustav Hassenpflug
Foreground: wire rigidity study. three-dimensional vertical and helical alignment around positive empty cylinder. Takehito Mizutani

Three-dimensional material study in aluminum sheet
Emphasis on economy of material (produced from a square with nothing left over, maximum rigidity, greatest possible height), and on economy of labor (one tool: tin snips – aside from the base mounting – one procedure: simply cutting with shears, without any subsequent bending). Alfons Frieling

lines and precision are the greatest factors in creating this discipline, and this becomes evident in the clarity of the final product.

We seek to maximize exploitation of the material by experimenting with maximal carrying capacity (highest elevation, broadest distribution of load, heaviest loading), maximal strength (while retaining flexibility), the closest connections, the smallest or weakest state. Examples: Drawing paper folded into pleats about 25–30 cm long, 1 cm high, will bear the weight of two people. The "drawers" (insides) of matchboxes, inserted into each other in a tight circle will support more than the weight of a single person.

Stretching the performance of materials to the breaking point makes the limits of the materials clear, leads organically to related or antithetical materials, allows one to attempt mixtures and further intensification of energies. Example: The luster of tin can be heightened through intersection and reflection to the point at which it gives the illusion of transparent glass.

In addition to this economy in the use of materials, there is an economy of labor. Economy of labor can be fostered by recognizing faster and easier methods, addressing multiple tasks simultaneously, the use of finished or easily obtained materials or aids, the right choice of tools, careful replacement of missing equipment, unification of multiple processes, limiting oneself to a single tool or procedure.

Emphasizing economy of labor only seems to contradict the curriculum described above. Shortening the work process happens only at a later stage. Understanding the difference between teaching people how to make things and teaching removes the apparent contradiction.

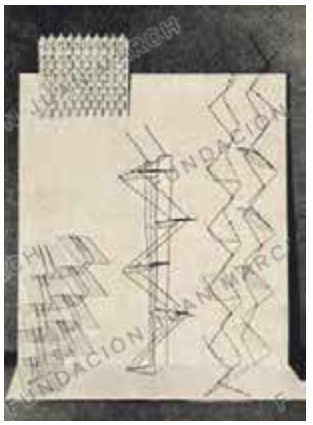
When a student's learning is directed more toward technological and economical concerns than toward traditional forms, they learn to see both statically and dynamically. They learn the connection, and thereby overcome the false dichotomy between the organic and the technological. In addition to constructive thinking, this kind of learning schools a spatial imagination that is rare. It mediates the collective exchange of experiences, and aims to discover laws of form that are both universal and contemporary. It prevents one from overvaluing individualism, without restricting real individuality.

Schools should not promote individualism as such because individualism emphasizes separation. The task of a school is rather to integrate the individual into contemporary life, into society (state, profession, economy). Cultivation of individuality is the task of the individual, not the task of a collective enterprise such as a school. Schools should cultivate individuality passively, i.e. by not disturbing personal development. How many real personalities exist anyway? The vast majority of people are types. A sociological economy must reject conventional pedagogy's cult of personality: productive individuality asserts itself without, and despite, education.

Another set of exercises, the so-called *Materie* studies, open up the formal aspects of our work and possibilities for creating forms freely. During the course of the semester, they alternate repeatedly with the exercises using materials already described. This second set of exercises proceeds less from the inner energies of the materials; rather, they make use of the materials' external appearance. The skins of the materials are brought into relationship with each other according to relatedness or contrast ("like seeks like" and "opposites attract").

Just as colors enter into relationships with each other (timbre – interval – tension, harmony – "disharmony"?), the superficial forms we note with our fingertips and with our eyes enter into relationships with each other. In the way that red complements green, and is simultaneously its contrast and balance, materials such as brick and burlap, glass and stearin, wire mesh and wool "stand" in the same relationship.

We classify the appearances of the materials' epidermis (outer layer) as essentially different in structure, facture, and texture. Our employment of them is more like painting than construction, so that spatiality, interruption, and interpenetration appear as an illusion. This special interest in the materials is a manifestation of an epoch that is oriented toward construction. The Gothic cultivated this same



Material exercises in paper
Stability and construction exercises without waste
Left: standing sheet of paper, folded and raised in positive and negative movement. Walter Tralau
Center: expanded paper with reciprocal locking. Semicircular rings at right angles to each other with locking feature. Arieh Sharon
Right: variant of center. Width of the semicircular rings in geometrically increasing proportions, intersecting at 45 degrees, producing active negative form and active remainder form. Arieh Sharon

Construction studies
Wire and glass with emphasis on edges
Left: with clamp locking (linear linking). Klaus Meumann
Center and right: with compression locking. Heinrich Bredendieck
Top: three-dimensional cutting and folding facture in paper. Elisabeth Henneberger

interest strongly, but it has been badly neglected since: facades and rooms, implements and clothes, have been made of only one material; walls and furniture and floorboards have been completely covered with paint.

This longstanding practice of neglecting the natural surface of materials makes it difficult to take up this multifaceted task of developing the finest possible feeling for the material. In order to concentrate the experience we not only assemble materials in suites to seek relationships, we also create textures and factures, invent them, and then translate them into materials with different colors or hues; we substitute materials with related appearances for them; and we imitate them in drawings or paintings.

The systematic ordering of materials into suites with rising or falling values between two polarities sensitizes one to the finest gradations and subtlest transitions. (Tactile scales from hard to soft, smooth to rough, warm to cold or hard-edged to amorphous, smoothly polished to sticky-absorbent. Optical scales, e.g. finely meshed – coarsely meshed, transparent – translucent – opaque, clear – cloudy – dense.)

Group discussions of the results of the exercises with materials and related tasks aim to call forth careful observation and a new seeing. They allow us to recognize which formal needs are most relevant to us: harmony or balance, rhythm or volume, geometrical or arithmetical proportion, symmetry or asymmetry, rosette or series. What interests us even more in this regard: rich or austere, complicated or elementary form, monotony or polyphony, mysticism or hygiene, volume or line, beauty or cleverness, heraldry or the bathroom.

In short, the inductive mode of instruction I am promoting strives for responsibility and discipline vis-à-vis one's materials, one's work, and oneself, to teach what tasks and materials are most congenial to the student. The ongoing systematization of this mode is intended to provide substantial, lived insight. It tries to be a training in flexibility in the broadest sense, which cannot be isolated by later specialization. It leads to economical form.

This mode of working stands in conscious opposition to that of conventional trade schools, in which manual facility is "inculcated." Where some carpentry, some bookbinding, some tailoring goes on. Also sawing and planing (the most difficult carpentry), also filing and beating, also sticking and gluing, remain unproductive. Because it meets only the drive to be busy, not the need to give form.

Even worse than unproductive, such "initial training" can only be called detrimental. The result is a year's supply of nearly finished, standardized components, coverings, and fasteners pre-packaged and marked with numbers, ready for delivery according to a printed schedule. Someone has applied for a patent for just such a system.

As students and teachers, we must once again learn from and with one another (in competition, which elevates); otherwise, teaching is a bitter pill and a bad business.

* The teaching process outlined here will be discussed in detail in a pedagogical-methodical book on creative education based on a wealth of graphic evidence of its results.

** This method should not be applied to pure disciplines.

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Originally published in German as "Werklicher Formunterricht" in *Bauhaus Zeitschrift für Gestaltung* 2 (Dessau), no. 2/3 (1928): 3–7. The article was later published in *Die Arbeitsschule: Monatsschrift des Deutschen Vereins für Werktätige Erziehung* 43, no. 1 (1929): 32–37.

Offprints and photocopies with English translation and handwritten excerpt, Box 81, Folder 32, The Papers of Josef and Anni Albers. Typewritten four-page extract of the article, Box 27, Folder 254, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Excerpts of English translations can be found in *Bauhaus, 1919–1928*, ed. Herbert Bayer, Walter Gropius and Ise Frank Gropius (New York: Museum

of Modern Art, 1938), 116–23; and in Hans M. Wingler, *Bauhaus: Weimar, Dessau, Berlin, Chicago* (Cambridge, MA: MIT Press, 1969), 142–43. Albers' personal copy of the original Museum of Modern Art publication (1938) with notes and marks, Box 4, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

A new edition of the book was published in 1952 by Charles T. Branford, Boston. The third edition – in German – was published by Verlag Gert Hatje, Stuttgart, in 1955.

The full English translation provided by The Josef and Anni Albers Foundation for this publication is by Frederick Amrine, Frederick Horowitz and Nathan Horowitz..

In the cover of this issue of the journal, Josef Albers appears as one of the twelve Bauhaus masters together with Wassily Kandinsky, Lyonel Feininger, Paul Klee, Hannes Meyer, Hinnerk Scheper, Joost Schmidt, Gunta Stölzl, Hans Wittwer, Ernst Kállai, Oskar Schlemmer and Mart Stam.

Josef Albers originally presented this paper, under the title of "Creative Education" at the Sixth International Congress for Drawing, Art Education, and Applied Art, Prague, 1928. The visitors to the Bauhaus section of Prague's International Exhibition of Creative Education misunderstood the meaning of the objects on display which had been produced in Albers' workshop. Instead of seeing them as the result of elementary exercises, they took them for some sort of peculiar art and criticized them as such. Original publication in Czech, "Tvořivá výchova a Bauhaus" in *VI. Internationaler Kongress für Zeichnen, Kunstunterricht und angewandte Kunst* (Prague, 1928). A student of Albers completed the translation from Czech to English in 1968. Copy of the typewritten translation and accompanying letter of the student, Box OS 19, Folder 7, The Papers of Josef and Anni Albers.

## Combination Type "3" (1931)

The common characters are:

26 uppercase letters,
+ 26 lowercase letters,
+ 10 numerals,
+ 10 punctuation marks,

= 72 pieces of type
without accents
" umlauts
" dipthongs
" ligatures.

The Combination type presented here makes it possible to form all these characters out of only three basic shapes. As elementary type these basic shapes form the building blocks for all characters and are symmetrical geometric planes: square, triangle, and circle (see the top row of the adjacent plate).

The identical heights and widths of the basic shapes produce identical square bases (the printer calls them shanks) and thus fit together on all sides. This type has no intention of adding an additional one to the roughly 18,000 (presumably) existing typefaces, but only of achieving the greatest possible reduction of the previous type material through maximum standardization. Its application in the construction of individual letters is primarily only for larger point sizes, namely display and placard faces.

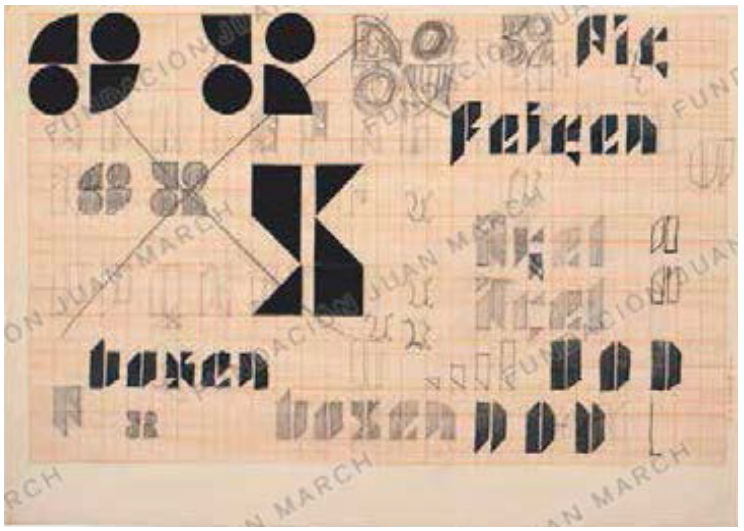
The virtues of Combination type have to do not so much with form as with economy. The following benefits are proof of this.

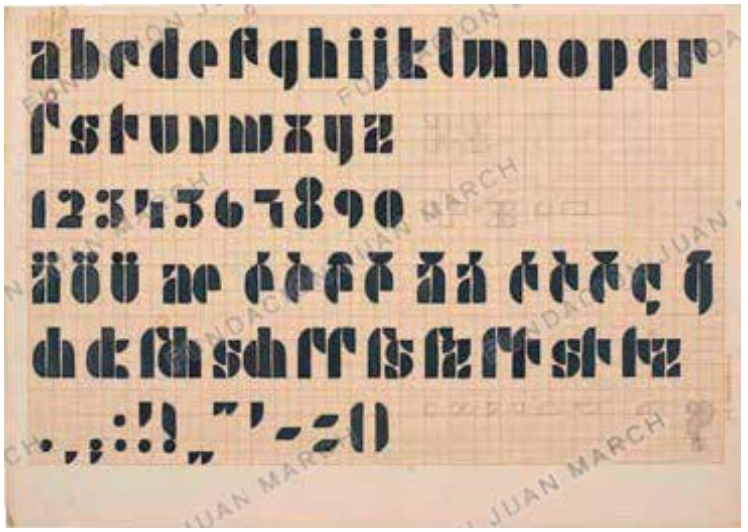
The number of bits of type is reduced by more than 97 percent: the printer's setting case for Antique (Latin) type has 114 separate elements, Combination type only three. In addition, only a single "filler" element, = ¼ quadrant (for intervals and internal spaces), is sufficient, though it can be replaced by the scrap and leading material found in every print shop. This means an extraordinary saving in labor and material in the highly complex production of typographic material.

Material maintenance and especially wastage are reduced to a minumum, for there are no projecting shapes and varying widths. Wear on the type is now uniform, there are no longer unused or only rarely used letters (like p, x, y), there is no running out of the frequently used letters (e, a, n).

Type cases require far less space, and breaking down and sorting are made easier.

The combination of elements allows rich variation in terms of form, height, width, size, spacing, even within a single word. This results in





Josef Albers, *Study for lettering*, ca. 1926. Ink and pencil on paper, 8 5/16 x 11 3/4 in (21.1 x 29.8 cm). The Josef and Anni Albers Foundation

Josef Albers, *Design for a universal typeface*, ca. 1926. Ink and pencil on paper, 8 5/16 x 11 3/4 in (21.1 x 29.8 cm). The Josef and Anni Albers Foundation

greater distinctiveness, and makes it possible to obtain many different alphabets out of only a single type size (see second to fourth row of the adjacent plate).[1]

A new benefit results from the fact that in all pieces of type the width of the shank is identical: the length of any text to be set can be easily calculated (previously possible only on a typewriter). Adjustment of the letter spacing is deliberately avoided. Another adjustment is achieved through the corresponding distribution of gaps within the ascenders.

Combination characters can be used in stencils without redrawing, since there are no connecting internal forms and bars.

Combination type makes it possible for the first time to set all characters, including variants, reversed, both horizontally and vertically.

All words can thus be printed not only forward (left to right) but also backward (right to left), and also upside-down in both directions, thus in every mirror-image script. This opens up whole new effects for advertisements.

For montage lettering especially, for example in wood, metal, cardboard, paper, or for illuminated faces, there are, in addition to the previously mentioned saving in pieces of type, the following benefits: no need for counting the individual letters needed, so no need for a letter inventory, and an end to the fragility (danger of breaking) of projecting or three-part letters (K, L, M, T).

The same benefit will be seen in stamp typefaces, and especially in letters made of brittle materials like glass and porcelain.

The economically justified trend toward only lowercase letters is not affected by Combination type (uppercase letters are provided for the transition period), and the Combination type easily adapts to the proposals by Bayer, Schmidt, Schwitters, and Tschichold for simplification of the alphabet (specifically f, v, ph, s, sch).

See also: the first publication of the standardization of elemental type begun in 1923 in *Offset* 7 (1926); also Hoffmann's *Schriftenatlas* (Stuttgart, 1930).

1. In the original *Bauhaus* article, which was illustrated with four plates, an additional sentence here stated: "(The ascending rows at the bottom of plate 4, difficult to read, are not indicative of the legibility of the type, because the tight sequence of changing shapes here appears in the system, not in the written word.)" The illustrations featured here were not part of the article originally published in *Bauhaus Zeitschrift für Gestaltung* — Ed.

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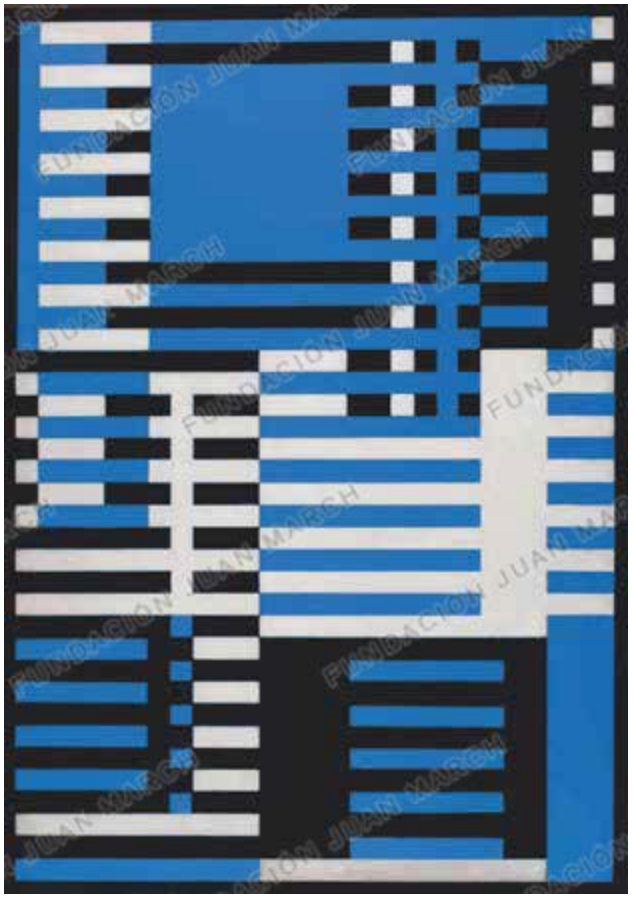
Originally published in German as "Kombinationsschrift ‚3'" in *Bauhaus Zeitschrift für Gestaltung* (Dessau), no. 1 (January 1931): 3–4.

Original typed article with handwritten notes, Box 34, Folder 6, The Papers of Josef and Anni Albers.

Translated from the German by Russell Stockman.



Josef Albers, *Aufwärts* (Upward) [Rising on Transparent Blue], ca. 1926. Sandblasted flashed glass with black paint, 17 9/16 x 12 3/8 in (44.6 x 31.4 cm). The Josef and Anni Albers Foundation

## On My Glass Wall Paintings (1933)

These glass wall paintings represent a new type of picture that is essentially determined by the material (glass) and its technical treatment (stencil-cutting, double-layer surface sandblasting).

Here the glass is used as in opaque panel pictures instead of transparent window paintings, as before.

They are not fitted together, but rather layered pictures of opaque milk glass, overlaid with colored (here generally black) panes (very thin glass top layer).

Technically, the result is razor-sharp contours and precisely defined surfaces, for which reason clear composition, exact drawing, and precise cutting are required.

The brittleness of the material and the fact that the colors cannot be modulated place limits on the composition, but also offer a special intensity of color, including the deepest black and the purest white, in addition to a special appeal of form and material.

In cultural periods with special interest in construction the appearance, consistency, and treatment of the material are object of increased attention. Our own era, with its technological orientation, clearly exhibits this "material" interest, and in this is like the Gothic period. Thus, in the design of these works combination becomes as important as composition.

The fabrication of these double-layered glass pictures following a methodical process opens up the possibility of precise duplication. This means that a picture does not have to be unique. As in printmaking or the casting of sculpture, larger editions will reduce the cost of manufacture and frustrate snobbish interest in the ownership of a singular work.

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First published in German as "Zu meinen Glas-wandbildern" in the catalogue of an exhibition of glass paintings at the Lepzig Kunstverein (January 1933). Reprinted in *A bis Z: Organ der Gruppe progressiver Kunstler* (Cologne), no. 3 (February 1933): 117. Organ of the group of progressive artists, edited by the Cologne branch. Translated from the German by Russell Stockman.

Josef Albers had first shown twenty of his glass paintings at the Kunsthalle Basel, from April 20 to May 9, 1929, in the exhibition *Bauhaus Dessau*, sharing space with works by Lyonel Feininger, Wassily Kandinsky, Paul Klee, and Oskar Schlemmer.

II.
BLACK
MOUNTAIN
COLLEGE
1933–1949

## Concerning Art Instruction (1934)

When Rembrandt was asked how one learns to paint, he is said to have answered: "One must take a brush and begin." That is the answer of genius which grows without school and even in spite of schooling. At the same time we know that he had a teacher and became a teacher.

Delacroix went further when he wrote in his diary: "How happy I should have been to learn as a painter that which drives the ordinary musician to despair." He meant by this the study of harmony and especially the "pure logic" of the fugue, "which is the basis of all reason and consistency in music."

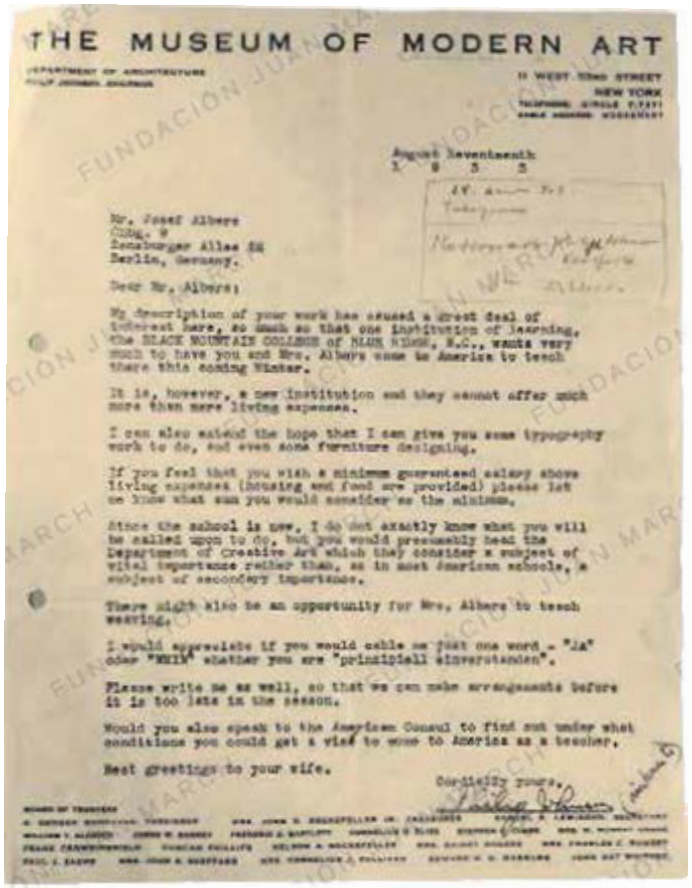
These two assertions are not contradictory. They merely emphasize different aspects of an artist's work: on the one hand the intuitive search for and discovery of form; on the other hand the knowledge and application of the fundamental laws of form. Thus all rendering of form, in fact all creative work, moves between the two polarities: intuition and intellect, or possibly between subjectivity and objectivity. Their relative importance continually varies and they always more or less overlap.

I do not wish to assert that the practice of art cannot be learned or taught. But we do know that appreciation and understanding of art can grow both through learning (the development of intuitive perception and discrimination) and through teaching (the handing on of authoritative knowledge). And just as every person is endowed with all the physiological senses – even if in varying degrees both in proportion and quality – likewise, I believe, every person has all the senses of the soul (e.g. sensitivity to tone, color, space), though undoubtedly with still greater differences in degree.

It is of course natural for this reason that the schools should at least begin the development of all incipient faculties. But going further, art is a province in which one finds all the problems of life reflected – not only the problems of form (e.g. proportion and balance) but also spiritual problems (e.g. of philosophy, of religion, of sociology, of economy). For this reason art is an important and rich medium for general education and development.

If we must accept education as life and as preparation for life, we must relate all school work, including work in art, as closely as possible to modern problems. It is not enough to memorize historical interpretations and esthetic views of the past or merely to encourage a purely individualistic expression. We need not be afraid of losing the connection with tradition if we make the elements of form the basis of our study. And this thorough foundation saves us from imitation and mannerisms, it develops independence, critical ability, and discipline.

From his own experiences the student should first become aware of form problems in general, and thereby become clear as to his own real inclinations and abilities. In short, our art instruction



THE MUSEUM OF MODERN ART

11 WEST 53rd STREET
NEW YORK

August Seventeenth
1 9 3 3

Mr. Josef Albers
Chlg. 9
Sensburger Allee 22
Berlin, Germany.

Dear Mr. Albers:

My description of your work has caused a great deal of interest here, so much so that one institution of learning, the BLACK MOUNTAIN COLLEGE of BLUE RIDGE, N.C., wants very much to have you and Mrs. Albers come to America to teach there this coming Winter.

It is, however, a new institution and they cannot offer much more than mere living expenses.

I can also extend the hope that I can give you some typography work to do, and even some furniture designing.

If you feel that you wish a minimum guaranteed salary above living expenses (housing and food are provided) please let me know what sum you would consider as the minimum.

Since the school is new, I do not exactly know what you will be called upon to do, but you would presumably head the Department of Creative Art which they consider a subject of vital importance rather than, as in most American schools, a subject of secondary importance.

There might also be an opportunity for Mrs. Albers to teach weaving.

I would appreciate if you would cable me just one word - "Ja" oder "Nein" whether you are "prinzipiell einverstanden".

Please write me as well, so that we can make arrangements before it is too late in the season.

Would you also speak to the American Consul to find out under what conditions you could get a visa to come to America as a teacher.

Best greetings to your wife.

Cordially yours,

Typed letter from Philip Johnson to Josef Albers, August 17, 1933. Josef Albers Papers (MS 32), Box 1, Folder 14, Manuscripts and Archives, Yale University Library

attempts first to teach the student to see in the widest sense: to open his eyes to the phenomena about him and, most important of all, to open to his own living, being, and doing. In this connection we consider class work in art studies necessary because of the common tasks and mutual criticism.

We find this way more successful than starting, without previous study of fundamentals, on studies in special fields with purely individualistic corrections, depending on the taste of the teacher. At first every student should come in contact with the fundamental problems in as many branches of art as possible, instead of beginning, for example, with life painting or animal sculpture.

Many years' experience in teaching have shown that it was often only through experimenting with the elements in various distinct branches of art that students first recognized their real abilities. As a consequence these students had to change their original plans. As an instance, a student of painting discovered his real talent was for metalworking. Our first concern is not to turn out artists. We regard our elementary artwork primarily as a means of general training for all students. For artistically gifted students it serves as a broad foundation for later special study.

We have three main disciplines in our art instruction: Drawing, Basic Design (*Werklehre*), and Color-Painting. These are supplemented by exhibitions and discussions of old and modern art, of handicraft and industrial products, of typographic and photographic work. The exhibitions are used to point out special intentions (e.g. art related to nature or remote from nature; the so-called primitivism; monumental form, pure form; and realism or imitation), and conditions due to working material (e.g. wood form, stone form, metal form; silver form in the Baroque, and gold in the Gothic). In addition, collections of materials (different woods, stones, metals, textiles, leathers, artificial materials) are shown. By excursions to handicraft and manufacturing plants we seek to develop an understanding of the treatment of materials and of working in general (both as matters of technique and as social matters).

Drawing we regard as a graphic language. Just as in studying language it is most important to teach first the commonly understood usage of speech, in drawing we begin with exact observation and pure representation. We cannot communicate graphically what we do not see. That which we see incorrectly we will report incorrectly. We recognize that although our optical vision is correct, our overemphasis on the psychic vision often makes us see incorrectly. For this reason we learn to test our seeing, and systematically study foreshortening [and] overlapping as the main form problems of graphic articulation, and distinction between and the pronunciation of nearness and distance.

Drawing consists of a visual and of a manual act. For the visual act (comparable with thinking which precedes speaking) one must learn to see form as a three-dimensional phenomenon. For the manual

act (comparable with speaking) the hand must be sensitized to the direction of the will. With this in mind we begin drawing lessons with general technical exercises: measuring, dividing, estimating; rhythms of measure and form, disposing, modifications of form. At the same time we use the motor sense as an important corrective.

It will be clear that we exclude expressive drawing as a beginning. Experience shows that in young people this encourages artistic conceit but hardly results in a solid capability which alone can give the foundation and freedom for more personal work.

For this reason our elementary drawing instruction is a handicraft instruction, strictly objective, unadorned through style or mannerism. As soon as capability in handicraft has been fully developed, more individual work may follow. As artistic performance it will develop best afterwards and outside the school.

We repeat, our drawing is the study of objective representation.

In Basic Design (*Werklehre*) – design with material – we cultivate particularly feeling for material and space. It stands in contrast to a pure manual training in various handicrafts, which only applies traditionally fixed methods of work. We do not aim at "a little bookbinding," "a little carpentry," but rather a general constructive thinking, especially a building thinking, which must be the basis of every work with any material. Basic Design is a forming out of material (e.g. paper, cardboard, metal sheets, wire), which demonstrates the possibilities and limits of materials. This method emphasizes learning, a personal experience, rather than teaching. And so it is important to make inventions and discoveries. The idea is not to copy a book or a table, but to attain a fingertip feeling for material. Therefore we work with as few tools as possible and prefer material that has been infrequently used, such as corrugated paper, wire, wire netting. With well-known materials we seek to find untried possibilities.

Basic Design deals mainly with two subjects, with *matière* studies on the one hand and material studies on the other.

*Matière* studies are concerned with the appearance, the surface (epidermis) of material. Here we distinguish structure, facture, texture. We classify the appearances according to optical and tactile perception. We represent them by drawing and other means. In combination exercises we examine the relationship of different surface qualities. Just as color reacts to and influences color – in contrast or affinity – so one *matière* influences another.

Material studies are concerned with the capacity of materials. We examine firmness, looseness, elasticity; extensibility and compressibility; folding and bending – in short technical properties. These studies in connection with the mathematical inherence of form result in construction exercises. With these we try to develop an understanding and feeling for space, volume, dimension; for balance, static and dynamic; for positive and active, for negative and passive forms. We stress economy of form, that is, the ratio of effort to effect.

Comparisons of various examples in architecture, sculpture, painting, help to make clear the conceptions of proportion, function, constellation, and composition as well as those of construction and combination.

In short, *Werklehre* is a training in adaptability in the whole field of construction and in constructive thinking in general. Although we do not actually make practical things, the *Werklehre* is not opposed to handicraft work but is its very foundation.

Color we consider first as working material and we study its qualities. Sound production comes before speech, tone before music. And so at first we study systematically the tonal possibilities of colors, their relativity, their interaction and influence on each other, cold and warmth, light intensity, color intensity, physical and spatial effects. We practice translating color combinations into different intensities, and from colorful to colorless colors. We practice color tone scales, color mixtures and interpenetrations. We study the most important color systems, not for the sake of science or to find the harmony of colors in a mechanical way, but to learn to see and feel color; to prepare for a disciplined use of color and to prevent accident, brush, or paint-box from taking authorship.

Even after these fundamental studies that occupy half a year we are not in a hurry to make paintings. The studies that follow, from nature or model, are in principle concerned with the relationship between color, form, and space. Serious painting demands serious study. Rembrandt, at the age of thirty, is said to have felt the need of twenty years of study for a certain color-space problem.

By making an extended study in the three provinces of form, material, and color, we provide a broad foundation for the widest variety of tasks and for later specialization. No problem of form lies outside our field. Thus we do not cultivate dilettantism – just something to do – (*Beschaeftigungstrieb*) but develop the creative, productive possibilities (*Gestaltungstrieb*). Class instruction with common tasks and criticisms coming from the students and then from the teacher communicates understanding of different ways of seeing and of representing, and diminishes the tendency to overestimate one's own work.

It will be clear that this method is meant for mature students. For teaching children we should use other methods.

Life is more important than school, the student and the learning more important than the teacher and the teaching. More lasting than having heard and read is to have seen and experienced. The result of the work of a school is difficult to determine while the pupil is in school. The best proofs are the results in later life, not, for example, student exhibitions. Therefore to us the act of drawing is more important than the graphical product; a color correctly seen and understood more important than a mediocre still life. It is better to be really able to draw a signboard than to be content with unfinished portraits.

Most of our students will not become artists. But if they know, for example, the capacities of color they are prepared not only for

painting but also for the practical use of color in interiors, furniture, clothes. These examples also illustrate the need of an understanding of materials.

We are content if our studies of form achieve an understanding vision, clear conceptions, and a productive will.

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Originally written for and published in *Black Mountain College Bulletin* 2 (June 1934): 2–7. Copy of the original typescript with subsequent corrections by different colleagues, and original German text ("Kunstunterricht als schöpferische Erziehung"), Box 27, Folder 251, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. A copy of the original publication can also be found in the same archive, Box 3, Folder 36, and at Josef Albers Papers, 1929–1970, Archives of American Art, Smithsonian Institution. A second version with slight editing corrections was published in November 1944 and printed commercially. The text reproduced here corresponds to the second version of the essay. Josef Albers wrote a second foreword for this text in December 1936 that remains unpublished.

A copy of this second version can be found at Series 3: Printed Material, 1929–1969, Josef Albers Papers, 1929–1970, Archives of American Art, Smithsonian Institution, and downloaded from Black Mountain College Research Project, North Carolina Museum of Art, Western Regional Archives, BMCRP, Series VI, Box 75, Folder 2 (http://digital.ncdcr.gov/cdm/compoundobject/collection/p249901coll44/id/564).

The publication of the bulletin included quotes about Black Mountain College by relevant thinkers of the times. Eleanor Roosevelt (*My Day,* April 10, 1941): "This is a unique educational experiment, where the students and faculty are not only building their own buildings but really are attempting to demonstrate democratic procedure in an educational institution;" Albert Einstein: "I want to congratulate you upon the work you are doing. You are here as a little community to work with your hands and your brains, which is a good thing for you. What is done out of pleasure is much better done than what is done out of duty. If you had to climb mountains out of duty, you could not mount these high mountains. I think that is also true with the high mountains of the spirit."

## Taste (n.d.)

To the question whether one can have
        good taste or bad taste
we will agree
that "bad taste" as such is a physical experience
        or if you like that bitter or unsympathetic
                sensation.

"Bad taste" can be stated about food for instance
as spoiled eggs, meat or fruit.

"Tasteless" also refers to material
        water or stone may seem tasteless
        that is, without taste
but it cannot be said that a person
is tasteless.

As "tasteful" on the opposite and sympathetic
side, or "tasty" is applied also to things
we can taste
there is no tasteful or tasteless person
or someone with "good taste," e.g. as it often
can be heard – or bad taste or better taste.

We can speak of better judgment not of better taste.
Lack of judgment is no judgment and as on the
negative side, prejudice.
There is no good morale and bad morale.
We either have moral [sic] or not.
There is no good or bad virtue.
The opposite to virtue is vice.

Any quality we may develop, as e.g.
virtue, morality, judgment, wisdom
can be of a higher or lower level
but they have no passive or negative sides
which could be categorized as bad or poor.
The opposites are
vice, amorality, prejudice, inferiority.

The difficulty begins where we don't
recognize others' taste or virtue.
Virtue can be measured with virtue.
Who has no taste usually will not
recognize that others have.

On taste

See the saying
"He has sense of humor"
no saying:
He has a *good* sense of humor
but: just as sensible
So we should say:
"*he has taste*"
or he has no taste

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Undated unpublished typescript, Box 81, Folder 14, The Papers of Josef and Anni Albers.

# Foundation of Constructive Forms

## Three Lectures at the Lyceum, Havana (1934–1935)

*Series of three unpublished lectures given by Josef Albers at the Lyceum, Havana, on December 29, 1934, January 2 and January 4, 1935, following an invitation by the Cuban designer Clara Porset, who had visited Black Mountain College the previous September. Professor Sterling translated Josef Albers' text from German to Spanish. Josef Albers gave the lectures in German, with consecutive Spanish translation read by Clara Porset.*

*In these three lectures Albers presented his new theories on the teaching of art to develop the creative spirit of the student by means of assignments with materials and forms. The aim was to learn the true sense of material and space and to give a constructive character to theoretical thinking.*

Ladies and Gentlemen:

I'm very sorry not to be able to express myself in your language, and I thank Professor Sterling for his kindness in translating my words into Spanish; also a special thanks to Miss Porset, who will read the Spanish version; and thank you all for your interest.

You will have to listen to my presentation twice, first in German, and then in Spanish. This will double the length of the conference, and for this reason I have tried to formulate my reflections in the most concentrated way possible. I hope you will understand why I have to express myself so concisely, as in a manifesto; and also I hope you will understand why I can't speak freely, but instead dedicate myself strictly to the manuscript.

Now, to the point. Our three conferences deal with the *fostering of originality in art education.* I will neither expound nor examine critically the diverse possibilities, but instead limit myself to speaking of one way that I have developed in the Bauhaus, of Weimar, Dessau, and Berlin, and which I currently teach at Black Mountain College (North Carolina).

In the first two conferences I deal with certain problems of *form,* which are based on so-called workshop teaching, and which have as their principal objective the development of awareness of material and of space.

In the first conference we will speak of constructive forms, in the second of the combination of materials, and in the third of objective representation, which embraces the teaching of drawing and painting.

In the three conferences, I will start by enunciating the principles theoretically. Then I will try to clarify them with examples.

## I. Constructive Form (1934)

Active education is conscious or unconscious action on men to order them within the community and society. A man of science would express it in the following way: The totality of individuals should be ordered within the community as a whole.

The personal objective of education was expressed, in other eras, by the concept of *character.* Nowadays we prefer the term *intention.* The school that educates is therefore a school of *intentions*. With this, we emphasize the fundamental ethical objective of all education: The formation of the will.

I differentiate between *education* and *instruction.* Instruction (in the form of knowledge and technical ability) is received in professional schools, from technical teachers, within the context of technical instruction. We can receive a "culture" foreign to our personality; for example, musical instruction. On the other hand, there can be no education foreign to our personality, because education embraces a disposition, an aptitude.

Fertile education, or, to put it another way, the education of originality, is the formation of a productive intention, and it is also a disposition toward activity, toward creation, toward the creation of forms.

To create is to compete with the greatest creator: to extract from nothingness, from the spirit. To create is to configure forms. He who

configures forms is the antipode of the administrator, who only takes care of, conserves, and transmits; whose principal concern is to keep his goods from diminishing. The caricature of instruction is military-style training, the extreme opposite of true education.

The example has been cited since antiquity as a principle means of education. It is said that the example produces the spark, produces enthusiasm, produces captivation.

This principle, applied to the realm of form – our realm – brings us immediately to an essential problem: If we investigate the value of the example, we will come to recognize that it principally has a moral action. It has an authoritarian character.

The example obliges us to imitate; for this reason, it lacks a fundamentally creative energy.

Speaking of the example: In the realm of form, we have been shown the ancient models – the so-called past masters – in their works as *examples of forms,* and unfortunately almost never in their *intentions,* in their spirit.

Nor has it been taken into account that the example primarily encourages imitation. For this reason, it does not seem correct to me to set out from the ancient models. With such retrograde orientation, we will easily forget to use our own mouths, our own legs, our own eyes – and those face forward, not backward.

We won't use this as an excuse to avoid studying the ancient models; but this study should not be of past methods, but principally of the causes and fundamentals of their vision and their technique.

When we have determined which of these causes continue to be valid today, that is, which have meaning in our life, we will have succeeded in assimilating to ourselves the realizations of the past, in their life and in the possibility of their development.

Thus we will conserve our independence, having taken from the *tradition* what it is possible to take from it, and standing aside from *conventionalism.*

Within what is ancient, we will thus distinguish between that which *was* good and that which *continues to be* good. Then we will be able to believe that we are *evolving,* rather than *revolving;* that we are creating, not imitating.

Why were the ancient masters *great,* why were they victorious, why were they the ones who set the norms? Because they knew that even in the realm of the visual arts, the German saying is true: To give elevates us more than to receive. Because they didn't look backwards, nor did they imitate what the previous centuries had left behind. Because they responded to the necessities of their times, and they knew how to draw the correct consequences out of those necessities, out of those limitations. Because they could feel development taking place; because they could feel the course of life. Because they were contemporary, placing themselves in the vortex of progress.

Those of the historical school have affirmed, at times sorrowfully, that we do not have unity of style. Why? Because (they say) there is not unity in our vision of the world.

But where is the proof that we do not have unity of style? Let's examine the beginnings of cinematographic production, about the year 1900. We will be astonished at how appropriate all the forms of that time were, from chairs to bicycles to ladies' hats. And even in these products, so distant from those with what we call an *artistic purpose,* we see a surprising stylistic action. I'm not trying here to determine if the style is good or not. In all cases we see the style clearly. What's more, where is it written that we need to have a style and that we have to preoccupy ourselves with that?

In any case, today we see and feel a change in spiritual development, in thought, and in life.

We affirm that economical and technological concerns have an extraordinary influence on our life and that they modify it more than they did in any other epoch.

We see, furthermore, that a new approach to existence has found its expression in a new architecture, in a new art, in new equipment for the household that is very different from that of the past.

It is natural that this development be slow, since we come from generations oriented toward historicism; and we still see a great tendency to consider the historical as superior.

As a teacher, I will take from the ancients a phrase that continues to be exact: Life is the best teacher. Which is to say, *that which teaches most intensely is our own experience.* This is precisely because it cannot be lost, nor can it be forgotten. Out of all our cultural patrimony, the most durable thing is our experience.

Why don't we promote more experiences, instead of continuing or collecting our own or other people's experiences? Why make people learn things by memory, instead of teaching them to see inwardly?

A method exclusively didactic (that is to say, communicated) and its applications, serves up acuity and dexterity, but rarely promotes creative forces. Out of this, we will derive the following consequence: *To learn* is more important than *to teach*. The disciple is more important than the master.

In my opinion, the more is taught, the less is learned, at least in our field of action; frequently the reverse is true in the pure sciences.

For this reason, the basis of the teaching of forms, in a school that encourages originality, does not consist of a didactic method with imitative application, but in a process of experimentation – free of prejudices and influences – whose character is deliberately dilettantish, amateur, and non-professional.

*Tasting, testing, and trying* are more valuable than *studying*. A pleasant beginning raises the spirits and leads to invention and discovery.

We see clearly, then, that the goal of the teaching of the configuration of forms is *invention.*

Invention, even if it is merely *reinvention,* a *rediscovery,* constitutes the essence of all original work. Every truly great artist – musician, writer, scientist, doctor, or teacher – was an inventor, and creation is *the new, the different, the improved.*

Mere technical instruction, as a starting-point for teaching, restrains invention. Technical knowledge frequently obstructs the freedom of creative experimentation.

As proof, I'll give an interesting testimony from some technical professionals. A couple of years ago, an international congress of radio technicians took place in Europe. They were honorable enough to make the following declaration: "We see no way forward for the future progress of radio technology. Now we have to wait for the amateurs and their inventions to show it to us." It seems very significant to me that in this case, they had no expectations of science.

As far as our work of experimentation is concerned, we appreciate the true value of the unprejudiced freedom of the amateur. But we do not discard for its sake a systematic, professional training. For that purpose, there were many workshops – and manual labors too – at the Bauhaus. All students had to work in one of the workshops: carpentry, metals, glass, textiles, ceramics, printing, photography, set design, painting, or sculpture. But before the work of the workshop, there was the manual teaching, compulsory for everyone, whatever their previous preparation. At Black Mountain College, too, we hope that we will soon have, alongside the current textile workshop, others for woodworking, printing, and ceramics.

I return to the already-emphasized economic and technical orientation of our epoch. Its economical form is the consequence of *function* and *material.*

For this reason, material and function constitute two important fields of study. Function embraces the specific and important field of the *useful object;* it belongs to technical instruction, and also to the posterior teaching of the workshop. That's why in basic manual initiation we first seek contact with the next, and easier, chapter: *material.*

As a productive introduction to the concept of *material,* we have the excellent expression, *feeling for the material.* You can't get this from books, nor from your teacher; only from your own fingertips.

Let's then put the material in the hands of the student; and to make it fundamentally important, let's keep tools out of his hands as much as possible.

That's how reasoned, independent personal reflection begins: by individual manipulation, without previous instruction, without methods, without tools. And this takes place with extraordinary facility, within free experimentation, free from all obstacles.

Alongside the limitation of tools, there quickly arises the limitation of already-known applications. Because that which one already knows cannot be invented: it is therefore obvious that *the known* should be *forbidden.*

An example: Paper is generally used (in industry and in the work one does by hand) lying down, flat, and glued. One of its faces usually remains invisible, the edge is almost never used, and rarely is paper used in isolation: It is almost always found on something, under something, inside something.

This leads us to use paper upright, three-dimensional – never smooth – making both sides or the edge stand out; and furthermore, we'll make it independent.

Instead of gluing it, we'll tie it, we'll sew it, we'll fasten it with hooks, pins, paper clips; we'll make it rigid by folding it, rolling it up; we'll investigate its behavior when it is submitted to tests of tension and compression.

The material will thus be managed in ways that are deliberately different from the usual ways. This is not just to make it different – which would be to throw its *form* into relief – but so as not to do it like everybody else (which emphasizes the *method).* That is to say, so as not to imitate, so as not to repeat, so as not to copy; but to learn to search and find for oneself, to think constructively.

Later on, naturally, we will also glue the paper, but never before having tested the other methods for giving it solidity, and never before having recognized their limitations.

Out of this experimentation, there do not always arise entirely practical works or objects. Here, the practical result lacks importance, because practical experimentation and the idea that springs from the material continue to be the primary objective of the teaching.

(Perhaps you will have clearly foreseen by now that the important thing is always *the man.)*

To disconnect ourselves even more from usual techniques, we will employ materials whose use or application *is not known.* Therefore we will construct with straw, with corrugated cardboard, with metal screen, with cellophane, with newspaper, with wallpaper, with matchboxes, with razor blades, etc.

Frequently we only attain false inventions, things that already existed, though they were not known by the students. That doesn't matter... the discovery has been vivified and assimilated by what has been learned; and, I repeat, to learn is more important than to teach.

We already know that self-teaching lengthens the path, leads to deviations from the correct path, and even leads to mistaken paths. But beginnings are not always straight lines: Walking begins with swaying, speaking begins with babbling.

Errors that we recognize lead to progress, sharpen the critical sense, distill wisdom from failure, and lead the will toward the correct, the improved.

The results of the work will be examined and judged in group discussions. Fundamental justifications will be demanded of the selection of the material, the effort needed to produce the work, the form.

As a standard of value for the work, we will take into account the relationship between the effort and the effect. And so we arrive at economy, considered as a fundamental technical, formal and educative factor. Economy in the sense of *saving,* in relation to the material, to the tool, and to the labor; and also with regard to the best possible use of the *capacity* of the material.

So we will test: The maximum weight capacity, the maximum height attainable, the maximum horizontal extension, with the minimum

base surface for the construction, atop the greatest solidity, and with the thinnest link. We will devote special attention to the negative, residual spaces, to the intermediate forms of little value. Working with concepts of *positive-negative,* and *active-passive,* gives us the opportunity to explore the sociological bases of our conception of form.

Such use of *positive-negative* makes it impossible to leave something *left over, wasted.* We will therefore leave off distinguishing essentially between the *burden* and the *support,* the *servant* and the *served.* Each piece of the construction will have to *help* and *be helped, carry* and *be carried,* reversibly, as in human relations.

And now, let me clarify, with slides, what I have tried to tell you. You won't see practical objects. No chairs, no lamps, no tables; just constructions. Materials whose intent is to demonstrate that at the beginning, we dedicate ourselves only to mental flexibility.

Slides:

1. Three-dimensional forms in paper. Folded in different ways. Observe that the positive forms are repeated negatively. For this reason there is no base. In the corner, a cone has been easily produced by cutting the perimeter.
2. The paper, in figure 1, is still lying down. Here it's standing up. This demonstrates paper's rigidity. It's almost a meter high. No paper is wasted. Cut out of one piece of paper. On the right, it is only folded at an angle (positive-negative). On the left, a new quality: interpenetration. Cut from a single piece of paper with nothing wasted.
3. Detail of figure 2.
4. Another three-dimensional form, but also flat and erect. Up to now, we've only emphasized volume. Now, surface and line. In the middle, over a base, turned to the right, active base. It is composed of lines and points.
5. Examples of compression in the surfaces. The circle becomes an ellipse or a polygon. Reduction or lengthening of the form. You can see these little initial works that require self-control and critical sense. Often the experience is minimal, but we are educating observation and reflection.
6. Freer unions. Up to now, only isolated pieces; now groups. The principle is very simple: to fold a rectangle and a ring in different directions. The achieved effect: very rich forms. You can see that all this is not only thought out and constructed logically, but it is also beautiful. Beauty proceeds almost always from appropriate and intelligent work.
7. On the left, the challenge was to utilize a hole in the paper. This hole is not something negative, but something positive. The paper in a roll stays rolled. The roll serves to keep it standing up. What's more, it is a balance exercise. We realize how strong paper is, if we imagine the thickness that this form would have needed had it been made of another material, such as leather, wood, stone, concrete, etc.
   On the left, two dolls of rolled paper. A circle is cut without wasting anything. The head, dress, arms, and legs come from the rolled paper.
8. Why don't we build a sphere or a section of sphere departing from a plane? In other words, how do we give elasticity to paper, which is not elastic?
9. After the first dome or spherical helmet, a double cupola, obtained by the pressure of a complimentary square, without holes.
10. Narrow, vertical strips of paper with curved surfaces.
11. Here, complicated curved surfaces. The initial form remains a square or rectangle.
12. Concentric folds in a circle. The curves have not been made; they have arisen solely from the folding process. High sculptural quality. Example of embossing a surface.
13. Works in cardboard. Use of its layered structure. Use of sketches of rips. To the right, molding in cardboard. Above, something like a plant. Nothing glued.
14. Strips that untie and tie. In the center: sculptural effect bending a curve. To the right, experiment to give cardboard the character of a different material: wool or skin.
15. Experiments with modeling cardboard, almost as if it were clay. New textures.
16. Sheet of tin. Very good use of resistance. Movement as if in the growth of a plant. But nothing has really been curved. The curves all come from the tin snip's cuts. Intensive study of the cut. Everything has come from a rectangle. Not one false cut. High weight capacity. All this was originally higher, but it could not maintain itself erect. We cut it down until it stopped. You'll gradually get the impression that these works are not sketches. They are intended to be demonstrations of a determined constructive possibility.
    Each work was preceded by many studies. A good example of economy in work; one single tool and one single work method.
17. Variations on a cone of tin sheet. Above, the base surface remains invariable. In the lower row, the lateral surface plays with the base.
18. Below, typical works in tin sheet. Narrow bond among the parts. Above, the tin sheet imitates wool or skin.
19. Demonstrative representation of the resistance of tin sheet. On the left, diagonal cut in the square. A point in the center is enough to keep the two triangles standing up. On the left, another diagonal cut, plus folding and perforation.
20. Example of the curvability of tin sheet. Removed from a surface without waste. Positive and negative volume. Imaginary surfaces by line and reflection.
21. Our most lovely work in tin sheet. Great sculptural quality, great dynamism. Made only with three circles. The smallest cannot be seen here.

22. A rectangular piece cut and hammered to look like a human figure.
23. The same, from another perspective.
24. Metal screen; easy to curve in various ways. A rounding in two dimensions demands an essential modification in the construction. If it interests you, you can try it at home.
25. Glass, straw, tin sheet. Imaginary perforations. Skeletal construction. The joints are of straw. Above the tin sheet construction, there is a weight. If we take it away, everything falls, because the conjunction does not have links among its isolated pieces. These hold each other up by pressure. How? That is the inventor's secret.
26. Skeletal structures in thin wood. Half the thickness of a pencil and some 50 centimeters long. This construction is two and a half meters tall. Here you see the door. Everything is stuck together with razorblades. There is one in each corner. I think that the man who has done this can also do it in various other materials.
27. Movie film. Wooden matches stuck in the perforations, in such a way that the construction stands a meter and a half high and can hold up a roll of film. The same principle as in modern steel measuring tapes, but constructed before their appearance on the market.
28. Glass and wire. Two elbow-shaped wires freely suspended one from the other, reinforced with glass to keep them upright. Without the glass, everything falls down. The glass is not glued. Small pieces of art gum stop it from falling.
29. A glass stairway. Mobile axes. Sewn with wire. On the right, pincers generally used to manipulate glassware in laboratories. Moveable pieces of glass, framework of cork on wire.
30. Construction made with typewriter. The two pyramids are made with only two keys: the dash and the slash.
31. Various volumes. Extreme economy. On the right, interpenetration of two surfaces made with typewriter keys. This is not a vain pastime, but the fruit of real study.

I feel tempted to summarize the purposes of our work at this point, but it's better for me to leave it for the end of my second conference. Today, nevertheless, I want to clarify that we want to impart to our play the quality of child's play. We adults tend to judge the play of a child in the same way as the play of a man. As a way to pass the time. We do not always understand that play, for a child, always includes work, something serious in which his whole life takes part.

In the same way, *Werklehre* is not a pastime, but the intensive use of our capacities, of the best that there is within us.

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I. Constructive Form (1934)
First lecture.

In the original flyer of the lecture series (in Spanish) the title of the lecture reads: "December 29, 5.30 pm - Tactile and Optical Experiences. Constructive Work [Experiencias táctiles y ópticas. Trabajo constructivo]."

Unpublished original typescript in German with notes in pencil and marks in red, Box 27, Folder 252, and unpublished typescript of the Spanish translation, Box 27, Folder 251, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescripts with handwritten notes and publicity, Box 84, Folder 1, The Papers of Josef and Anni Albers. English translation provided by The Josef and Anni Albers Foundation.

## II. Combinative Form (1935)

In the first lecture about productive art education we learned about *constructive forming*. The examples showed how we formed material in accordance with its original appearance and its capacity (for example paper, cardboard, sheet metal, glass, straw, etc.). We call these exercises *construction or material exercises*.

In these exercises we paid little or no attention to the *appearance* of the material. We know, however, that we are very interested in the appearance and the external effect of the material, since all materials have a physiological effect on us.

A dress, for example, can be made very well and fit very well, but we may not like the color or the material, or it does not become us or fit us. We do have, therefore, ideas regarding thickness, smoothness, roughness, brightness, weight, or as to the way it hangs.

You see these qualities are not unimportant. Except for the dress, we have the same requirements in regard to material quality as we do in all things inside our house.

Therefore we also study the appearance of the fabric in a special section of the work lessons. This we call the *combination exercises* or the *Materie* exercises.

Now we get to an *area of form* that has something to do with our *taste*, and therefore has a more *individual* stamp.

In the *construction* exercises, we use fully the *inner energies* of a fabric; in *combination* exercises, the *outside energies*. We also have to deal here with the surface, with the outside skin, the *epidermis*, of the material.

Let's go back to the example of the dress. Naturally, we notice first, and most of the time, its color. Since the material gets the color for the most part afterwards, it is not a fundamental quality of the material, and does not interest us here.

In other words, *color* can be relatively *independent* of the material. We can have wool, for example, in many colors. A red dress can be

Josef Albers teaching at the University of Havana, 1952

made out of wool, or silk, or cotton. Also, there are red materials of completely different character: heavy, light, rough, smooth, fine, shining, dull, thin, thick, dead materials.

These qualities are genuine material qualities, or we call it with a new word, *Materie* [matter]. We perceive these qualities partly with the eyes, and speak of "optical perception" of *Materie.* But more, and much better, we perceive *Materie* through the fingertips. We call this *tactile perception*.

We see here also the importance of fingertip feeling. Today, we have to re-conquer this fingertip feeling anew, because we have nearly lost it.

Unfortunately, we adults are forbidden by etiquette from touching things. Thank God children can still be natural. If you watch a child of so-called simple people, the folk, touching wood, holding new shoes in the hand, stroking a new fabric, then you will understand that the feeling for material is an altogether primal and vital need.

Not only have we been alienated from these natural needs by nice manners, but since the *Renaissance*, particularly since the *Baroque*, we have inherited something like a *fear* of material, which was expressed in the last generations (mainly in Europe), so that our houses are covered everywhere with color. The ceilings and the walls and the floors, the furniture and doors and windows are all painted. All textiles are loaded with color and patterns so that you cannot recognize the material any more. The only thing left would be to paint the windowpanes. If that happened, then no material could be seen anymore.

Before the Renaissance, for instance during the Gothic period, it was very different. A door was clearly made out of wood. Iron remained iron, even when it was rusted. That was, indeed, real iron. And we would put a shiny, bright red color only on the nail heads. It was very beautiful. The wood of the furniture was emphasized, and the traces of the work were left clearly visible. Most of the time, only the metal fittings received color, again preferably red. The walls in the cathedrals were not ashamed to be made of stone and cement. Even if they were painted and gilded, the material of the wall always remained visible. So we see wood and stone and color and glass and metal and precious stone united in marvelous combinations.

The Gothic was a time of constructive thinking and constructive building.

We established in our first lecture that our time is similar in this respect. We hope that today, there will develop a keen interest in the appearance of materials, as there was in the past. Let's compare our shoes with those of our grandparents. We see now plenty of new kinds of leathers: snake, crocodile, alligator leather, etc. And different kinds of leather in one shoe. Shoes made out of fibrous material, or linen, rubber, braided shoes, perforated shoes, etc.

Or consider modern women's clothes. Old or new kinds of material are combined with fur, leather, oilcloth, glass, horn, metal, cellophane, etc. Or consider the many added textural embellishments to the material.

New furniture uses different types of wood, also very light color with emphasis on grain, and emphasizing, as well, combinations with glass, metal, fabric, leather.

In short, we see a *movement* toward material. Schools should not disregard this big, new movement toward a concern for materials. Accordingly, we study and differentiate surface appearances as *structure*, *facture*, and *texture*.

We call *structure* that which shows us the growth or the composition of materials. The structure of wood, for example, is its grain. Ivory and straw have similar fibrous structures. Slate has a layered structure, sandstone has a granular structure, bread, slag, and sponge have a bubbly structure, marble has a mixed structure, and leather is scarred.

The surface of a material shows us mainly the traces; so we speak of *facture*. The newspapers have typofacture. Hammered iron has a facture that is made of traces of the blow of the hammer. Other examples are a speckled wall, a spotted fabric, a raked garden path.

The third concept, *texture*, is often not distinct enough to be distinguished from *facture*. We speak of texture when we note not only the material, but how it was worked. Textiles in particular have, as the name says, textures. Well-known *textures* are twill, damask, tulle. All wickerwork is texture, as is the case of straw, raffia, wood, Panama hats, things that are knitted, crocheted, woven, laced; these materials show distinct textures. Also wire fabrics; and our hair has *texture* when it is combed, plaited, and curled.

In order to sensitize our eyes and especially our fingertip feeling to material differences, and to awaken our sensibilities, we do systematic studies.

We collect many types of wood and look at them and often touch them. The students should be able to differentiate between the most important kinds of wood: oak, birch, maple, pine, poplar.

In the woods we compare different kinds of bark, and thoroughly observe lichens and mosses, which very often show interesting structures.

We collect and compare different kinds of leather, paper, metal, stones, textiles; fabrics of all kinds. The students bring especially interesting things that they find outside for observation in the class.

In this way we once got to know a very old shoe from the woods, which not only had very nice sculptural form, but also very beautiful *Materie*. Later, this shoe took on the role of an expensive bronze sculpture on the bookshelf.

We do systematic exercises in order to classify the differences of the *Materie* qualities. Ten or twenty kinds of paper were arranged together in small pieces so they formed a graduation with regard to their smoothness. First the roughest paper, then the less rough, then the somewhat smoother, then the even smoother, and then even smoother than that, up to the smoothest. The students like to make these exercises, and often come up with interesting discoveries.

We call such ranking *Materie* scales. They are similar to the color scales that will be used later. They are formed, for example, between the polarities: tight-loose, hard-soft, thick-thin, heavy-light.

You can see that the possibilities lie in two directions: in relationships and contrast; in other words, in affinity and polarity.

In the same way as a color stands next to another color – that is, accepts that it has a relation to another color, and these two colors influence each other in their different qualities of warm-cold, light-dark, etc., produce sounds, intervals, consonance, dissonance – so materials also form relationships. They intensify each other or mute each other, harmonize together, contrast, or complement each other.

As green and red complement each other, which is to say that they both contrast and balance each other, or yellow and orange stand next to each other as close relatives, or in the way that oil and salad suit each other, so is the relationship between tile and linen (intense contrast) or the relation between glass and wax (as being relatives).

I said already that our exercises should promote a lively perception of the material. As in painting we study color next to color, so we study different types of leather next to different types of wood, or the latter next to different types of textiles. This brings us to the domain of interior architecture. Or we combine stones and metal so that a main rule from the Renaissance, namely, that marble and bronze fit together, does not remain a dead scheme. We experience that taste varies according to the times.

Often we also try to describe the materials. So we draw wood and stone, bread and roofing paper, newspapers and textiles.

(Let's go to the pictures)

32. Two *ladders*. Wire fabrics. Sequentially ordered from coarse to fine. A sequence of screws. From a little rough to very rough, in two different directions. If you take two of your fingers and glide over the two directions, you will experience a very exciting tactile perception.
33. Medium size wood shavings ordered from thin to thick. On the right hand side, diagrams of other orders. Left hand side, combinations from sharp to dull, made out of nails. Next to it, graphic diagrams.
34. Free combination of sand and flour. It is arranged like an unspoiled child would do in the sand. It is better than figurative representations done by over-sophisticated children.
35. Not printed matter, but drawings after printed matter. Instead of letters and numbers, simple lines. However, on the left hand side you see clearly a sheet out of a logarithm book, then a page of a train schedule, and a page out of a book, statistics. You see, the eyes distinguish very clearly. The strong typographic order and the black and white proportion are carefully studied. You see now that our play with the material is not a pastime or a diversion, but

a serious, disciplined study. Please don't forget that the coming free combinations may seem strange or comical.

36. Orderly arrangements of a given facture. The type is re-ordered in a way that a printer cannot do. Left, the papers with the number are put together. On the right hand side, the paper is used as an elastic material. You all know Mickey Mouse. The whole world is enthusiastic about him. What is so wonderful about that? Simply a new idea: to make animals and human beings elastic, and make animals and human beings look like they're made out of rubber. That is all. This small change makes millions enthusiastic. Here you have the same idea, and just as clever.
37. Something similar, the purse goes into a spiral.
38. This newspaper is in reality flat, but it does not look flat anymore. No printer can print like that. Top: The letters expand and shrink. They are not drawn, but made out of individual letters.
39. Symbol of the inflation in Germany. Here's a piece of paper once worth 5,000 marks. An enlargement was built out of several of those banknotes.
40. Order exercise. The same four heads, each with a shadow, turned through skillful division into twelve profiles – an economic work.
41. A space illusion made out of typofacture.
42. The man in the middle is shown correctly. The others are longer and shorter. Similarly, the woman. On top, six ice skaters, one after the other, always the same. The covered halves are left united in a new row.
43. Combination exercises made of a circle. These create an illusion of traveling in space.
44. On the left hand side is a change of order. On the right hand side, a comical but very good material combination. On a tin sheet are black blobs, on top of which wax is dripped from a candle.
45. Very good combinations.
46. The same.
47. Combination of structures: wood, natural; the rest painted.
48. These are the things that I talked about earlier when I asked you to take these works seriously; certainly, they are strange. They are especially good projects. It is not easy to say why, it is complicated to explain, and the time is too short. Maybe a comparison will make it clearer to you. If you have, for example, a blue dress with red and white dots, and you like it, can you analyze why the colors are beautiful? *De gustibus non est disputandum*, said the elder now centuries ago. In matters of taste the discussion stops, and the analysis of psychic effects is not as simple as some people believe.
49. Typofacture of a weather chart. Characteristically opened out. On the right hand side, the photo does not reflect the effect. Gray writing next to black.
50. A very good plastic combination. Many opposites are united. Transparent-translucent, flat-linear, even-bent, colored-colorless, lightheavy, shiny-matte, elastic-stiff, bouncy-swinging.
51. Similar combination. Curvy-squared, opaque-transparent.

In summary, I want to repeat that the *Werklehre* ai ms to educate creatively or productively.

Productive in regard to the object in the practical and economical perspective of our vital needs. Life today demands mobility, as opposed to worn out tracks. That means freedom *from* something.

Creative in regard to the subject. The creative human being develops from his inner self, and educates himself. This freedom is freedom *towards* something.

We use the inductive method in the *Werklehre*, which flows independently out of the self-made personal experience.

First we walk in order to learn how to walk; nothing more. Walking towards a practical goal will come of its own accord. Learning to speak comes before learning a language. Therefore: first exercise, then rules.

In this case, teaching has to remain unnoticed in the background, and the teacher learns with his students. (Otherwise school is sour bread and bad business.)

The guidance of the teacher is never noticeable, and the person who is guided believes that he walks by himself, seeks by himself, and discovers by himself.

Likewise, the child does not have to know that the mother chooses and tests his food.

The teacher must often be quiet about his superior knowledge and his greater experience, in order not to interfere with independent development. But the teacher's self-denial in the service of a helpful camaraderie is more rewarding than any authority.

In order to reach the general goal: Responsibility and discipline for oneself and the material and the work.

In order to reach the personal goal: The knowledge of what work or subject area would be best for the individual.

This education and upbringing will constitute a flexible training of the widest range, which will incorporate special studies later on. So that the cabinet-maker doesn't only think in wood and the plumber or tinsmith doesn't only think in tin.

We start with dilettantism and amateurism at the beginning of the studies because of inhibitions. And thorough control of the work through group criticism ensures that the goal is not dilettantism, which is inadequate.

If we want in this way to attain economical form, and request building more than painting, this does not mean that we want to get rid of painting, but rather, that we emphasize construction. And this, in order to avoid uselessly breeding artists, but instead, practical thinking people who know that for us the shirt is closer than the tie.

Then we are not in danger of overestimating individualism. Individualism, because it emphasizes individual qualities and separation, is not a primary school matter.

It is important for the school to place the individual in time and community. Individual nourishment is the task of the individual himself.

The school has to give individual care passively, which means not disturbing personal development. And real – that is, active – individuality is not only rare, but holds its own outside of and against the school.

Primarily, this is not just about beauty and style, but about unleashing all of our strength in order to improve our potential.

In this way, we want to be modern. That which is modern serves progress.

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II. Combinative Form (1935)
Second lecture, originally entitled "Combinative Gestaltung." In the original flyer of the lecture series (in Spanish) the title of the lecture reads: "January 2, 5.30 pm - Combinations of Forms and Materials [Combinaciones de formas y materiales]." Another person might have been involved in the translation or consecutive reading of the Spanish text during this lecture, since Albers wrote on the typescript: "Dr. Fonseca" [sic]. Albers also wrote for himself a reminder to address the public at the beginning of his talk: "Signoras y signores" [sic].

Unpublished original typescript in German with notes in pencil and marks in red, Box 27, Folder 251, and Clara Porset's manuscript as well as unpublished typescript of the Spanish translation, Box 27, Folder 250, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescripts with handwritten notes and publicity, Box 84, Folder 1, The Papers of Josef and Anni Albers. English translation provided by The Josef and Anni Albers Foundation.

## III. The Teaching of Drawing and Color (1935)

This third lecture is lost. In the original flyer of the lecture series (in Spanish) the title of the lecture reads: "January 4, 5.30 pm - Objective Representations. The Principles of Drawing and Painting [Representaciones objetivas. Los principios del dibujo y de la pintura]." One comment of the time, published the following day of the lecture (January 5, 1935) in the Havana newspaper, *Ahora*, is reproduced here as a token of this absence.

### Cultural Life
The final lecture by Professor Albers at the Lyceum was a success.

As we announced in our preceding edition, yesterday afternoon the German professor Josef Albers offered in the Lyceum the last lecture of the course which he has been delivering there with such pronounced success. It is impossible to reproduce here the principal topics he discussed yesterday under the heading, "The Teaching of Drawing and Color" [sic], but we will try to give now the most important part of the notable lecture by the professor of art of Black Mountain.

"Notwithstanding the many previous attempts, it has been only in the last twenty years that it has been possible to have a system giving us all the possibilities of color in painting. Painters have accepted this conquest with displeasure. This displeasure is evidence that every investigation of the laws regulating it produce confusion. It is said by artists that these laws, and the system which puts them together, hinder emotion.

I do not believe this... although I know very well that we shall never be able to know exactly the mysterious connections between form, color, volume, balance, proportion, dynamics, or whatever names you want to give these things, neither shall we be able to have the exact means of knowing them.

But I cannot believe that a clear brain can upset the emotional part of the artist.

If we study artists of the first rank, like Da Vinci, Dürer, Rembrandt, Cézanne, we shall see their honest effort to be pure, and that this effort never harmed them. Of course, this does not mean that knowledge may be substituted for intuition, but what I do assert is that knowledge fosters intuition."

Lastly the professor stressed the need to arrive, through knowledge received through the senses, at the knowledge of form and color, in order to adjust all posterior artistic activity to this first hypothesis.

Only in this way could we perceive the third dimension, so important to the integral value of painting and drawing.

So ended the course on "The Teaching of Drawing and Color" [sic] offered by Professor Albers, which has been attended by many students of painting, and teachers and directors of centers of artistic teaching."

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Original clipping of the newspaper *Ahora* (in Spanish), Box 10, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Typescript of the English translation, Box 3, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## Art as Experience (1935)

*Editors note:*

*Two years ago, Mr. Albers came from the Bauhaus in Dessau to Black Mountain College in North Carolina to teach art. At the Bauhaus, it is common practice to coin words and invent phrases to express those meanings for which there seem to be no adequate provision in the German language. Mr. Albers made use of this technique in his article, written in English. The excellent manuscript put the Editor in a quandary. Mr. Albers had something to say. He said it in his own way and he said it forcefully. Attempts to tinker it into more smooth English detracted from meaning and power. The article is therefore presented virtually as Mr. Albers wrote it.*

Science and life are not always the best friends. They are sometimes competitors, even as are theory and practice. In school we can see this in teaching the science of nature. We as children had to learn natural history, which tried to classify or dissect the phenomena of nature. But soon we underwent the experience that pressed herbariums are not nature at all and the herbalist is a dry man, like his specimens, or that anatomy has to do mostly with dead bodies.

After this funereal experience with dried leaves and stuffed owls and squirrels we felt a deep need of going out-of-doors to get, instead of the separated parts, the connection between them; instead of scientific systematizing, the events of life, the vital functions, the conditions essential to life – in short, to get life.

Life is change – day and night, cold and warmth, sun and rain. It is more in-between the facts than the facts themselves. Rules are the result of experience and come later, and discovering the rules is more life-full than their application. Linnaeus, the botanist, built his classifications after many experiences and much investigation. How could we have begun children's botanical studies with his final results!

*I believe it is now time to make a similar change of method in our art teaching – that we move from looking at art as a part of historical science to an understanding of art as a part of life. Under the term "art" I include all fields of artistic purposes* – the fine arts and applied arts, also music, dramatics, dancing, the theater, photography, movies, literature, and so on.

If we review what is being done now, what directions our art studies take in relation to the past, the present, also the future, the answer is clear. *We over-accentuate the past, and often are more interested in drawing out a continuous line of historical development than in finding out which of certain art problems are related to our own life, or in getting an open mind for the newer and nearer and forward-looking art results of our period.*

*Do not misunderstand me. I admire the earlier art, particularly the earliest art. But we must not overlook that they do not belong to our time and that the study of them has the purpose of understanding the spirit of their period or, what is more important, to get a standard for comparisons with our own work. What went on is not necessarily more important than what is going on.*

I think we have to shift from the data to the spirit, from the person to the situation, or from biography to biology in its real sense. As regards art results, from the content to the sense, from the "what" to the "how"; as regards art purposes, from the representation to the revelation.

To speak in a more practical way: We should try, for instance, to see a chair apart from its functional characteristics, as a living creature and, if you wish, perhaps as a person, such as a worker, a servant, a peasant, or an aristocrat; and apart from its stylistic characteristics, as an apparatus willing to hold us, to carry, to surround or embrace us, to give us a rest, or to show or to represent us; that we recognize the different needs of a chair in our living-room, on the porch, at the table, or at the desk.

To speak in general terms: We should study and learn in all fields of art, for instance, what is tectonic and what is decorative, structure and texture; or, mechanical form and organic form and when they are opposite, overlapping, or congruous; and what results from parallelism and interpenetration, enlarging and diminution – that after such-or-other cross-sections we may see the proportion between effort and effect.

To speak in professional terms: We should discover for instance that music, too, has to do with proportion and the values of line and volume; also that literature can be static and dynamic, and can have staccatos and crescendos, and poems can have color; that the play on the stage has not only dramatic climax but also an optical and an acoustical one; that there are musical qualities in all art – that every artwork is built (i.e. composed), has order, consciously or unconsciously.

To say it essentially: Everything has form and every form has meaning. The ability to select this quality is culture. If you agree with me that religion worked out only on Sunday is no religion at all, then we must be united in this opinion, that seeing art only in museums, or using art only as amusement or recreation in lazy hours, shows no understanding of art at all.

*If art is an essential part of culture and life, then we must no longer educate our students either to be art historians or to be imitators of antiquities, but for artistic seeing, artistic working, and more, for artistic living.* Since artistic seeing and artistic living are a deeper seeing and living – and school has to be life – since we know that culture is more than knowledge, *we in the school have the duty to remove all the fields of art from their decorative side-place into the center of education – as we are trying to do at Black Mountain College.*

To intensify this purpose, we have to bring about in school a nearer connection, or better, an interpenetration, of all the art disciplines and artistic purposes in school life, which will show that their problems are very much the same.

Then we will learn through the parallelism of their common problems – for example, the problems of balance or proportion – that they are tasks of our daily life too.

As academic separatism is passing, we in school have to connect as far as possible the scientific fields with the artistic fields. Isn't it true, for instance, that some historical periods are better identified through their architecture or pictures than through their conquerors and wars? And do not some costumes tell us often more than many queens? Generally, history should regard life as more important than death, and culture more serious than politics.

*How in school would you value an economist, chemist, geographer who lives only in the 19th century? Or a writing class which never shows contemporary problems? And what about an artist, a language teacher or a musician of the same taste! Let us be younger with our students and include in our consideration new architecture and new furniture, modern music and modern pictures. We ought to discuss movies and fashions, make-up and stationery, advertising, shop signs and newspapers, modern songs and jazz. The pupil and his growing into his world are more important than the teacher and his background.*

*Our aim is a general development of an open-eyed and open-minded youth seeking out the growing spiritual problems of our days, not closed to his environment; and forward-looking, with the experience that interests and needs are changing; a youth with criticism enough to recognize that so called "good old forms" sometimes can be over-used, that perhaps some great art important to our parents does not say anything to us; one who has reverence for earnest work and working, even though it seems at first new and strange to him, and is able to withhold judgment until clearer perception comes; who knows that one's own experience and discovery and independent judgment are much more than repeated book knowledge.*

We know that a short time of school studies cannot produce competent judges of art. Therefore, we at Black Mountain are content when our student, for instance, sees a connection between a modern picture and music by Bach, or a relationship between patterns of textiles and music; or if he is able to differentiate the form-character of a china pitcher from a glass pitcher, or an aluminum pitcher; or to recognize the difference between an advertisement of 1925 and one of 1935; or when he finds out that in art we still can experience revelation and wonder.

We want a student who sees art as neither a beauty shop nor imitation of nature, as more than embellishment and entertainment; but as a spiritual documentation of life; one who sees that real art is essential life and essential life is art.

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This text is an extended essay of a five minute speech given by Josef Albers at the Annual Convention of the American Federation of Arts, Washington D.C., May 20–22, 1935 (handwritten note by Josef Albers). Typescript of the speech, Box 27, Folder 252, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. The short speech was published under the title, "A Note on the Arts in Education," in *The American Magazine of Art* 29, no. 4 (April 1936): 233. The extended version of the original talk reproduced here appeared earlier in *Progressive Education* 12 (October 1935): 391–93. The text was published in Albers' original English, without any editing (see editor's note in the beginning). Reprints of the article, Box 79, Folder 11, The Papers of Josef and Anni Albers; Box 22, Folder 196, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. A Spanish version of the extended text was published in the Mexico City newspaper *El Nacional* (August 16, 1936), after the opening of Josef Albers' exhibition at *El Nacional* (August 15–25, 1936), showing his graphics and *Treble Clef* series of gouaches during Josef and Anni Albers' second trip to Mexico (June–August 1936). Copy of newspaper clipping, Box 10 and Box 22, Folder 196, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Several of the ideas of this text were also used by Grace Alexandra Young in her article "Art as a Fourth 'R'; Black Mountain College," subtitled "A New American College is Combating the Idea that Only Painters can Paint," in *Arts and Decoration* 42 (January 1935): 46–47.

A few excerpts of this text as well as the work of Albers at Black Mountain College were quoted in the article "The Education of the Architect; Work of a Selected Group of Schools," published in *Architectural Record* 9 (September 1936): 201, 212–13. The ideas from this text listed in this article are marked in italics.

Copy of the publication Box 3, Folder 33, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Albers mentions the article to the Dean of Harvard Graduate School of Design, Joseph Hudnut, in a letter sent to him on October 27, 1936: "Did you see the article in *The Architectural Record* on Black Mountain College as a non-architectural school?" Letter, Box 1, Folder 11, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## Why I Favor Abstract Art (1936)

Abstracting is the essential function
of the human spirit.
Abstract art is the purest art
it strives most intensely
toward the spiritual.
Abstract art is art in its genesis
and is the art of the future.

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Statement from December 12, 1936, Josef Albers Papers, 1929–1970, Archives of American Art, Smithsonian Institution. Published on the occasion of the Société Anonyme's traveling exhibition *Four Painters: Albers, Dreier, Drewes, Kelpe,* 1936–1937 (Chicago: Arts Club, 1936).

This statement was written right after Albers' first visit to Harvard Graduate School of Design, from December 7 to December 9, 1936. Besides the three seminars taught there, Albers had proposed giving an informal talk on "Abstract Art" to a small group rather than the suggested public lecture, owing to his lack of confidence in his spoken English. Letter from Josef Albers to Dean Joseph Hudnut, November 12, 1936. Box 1, Folder 11, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Albers gave a speech on "Abstract Art" in Asheville, North Carolina, in 1935. Original typescript, Box 27, Folder 252, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Albers wrote in pencil: "There is a later more comprehensive speech on Abstract Art in the Folder of reserved copies." This text might well be "Concerning Abstract Art" (1939). For a full reproduction of this text, see p. 243.

## A Second Foreword (1936)

This is intended to be a continuation, not a substitute for, nor a second edition of the Foreword of the first college year 1933–1934. Having found out there the contours of our educational field and its organization, now we have to go into our soil and it seems a natural development that after marking out the horizontal scope we should now go vertically into depth and height. And it corresponds to the actual problems of Black Mountain College that this Foreword is concerned solely with questions on education and learning and teaching. It is written not only about ourselves but also for ourselves. For it is not a definitive statement and seeks to incite a thinking over of some fundamental problems of school work. It tries, without touching many details, to draw a new cross-section through our educational aims more from a general than from a professional viewpoint.

You can divide all books into two groups. The larger group likes to start with a quotation. Others: The Bible, Laotse, Plato, Goethe, do not need such a start; they make quotations. Thus it may seem that only genius can produce original thoughts and revelations. But the unlearned or unlettered create maxims too. And not only in word but in deed.

Creation is the essential, always and everywhere, in anyone and in any field. And also, in an educational direction the *creative mind* is the essential.

You can divide all educators too, and then their clients or patients, the pupils and students, and we shall have a similar result: original and copy, authenticity and repetition, or first-class mail and printed matter.

And so the question is, how increase or expand the better group? How get a better education, better pedagogy, and better school?

Nothing is valuable in itself; value arises through comparison. The easiest start toward and evaluation is through a standard opinion: the definition. We may say that education is conscious and, just as important, unconscious influence on human beings to make them adjust in proper order to the family, neighborhood, state, and so on. A scholar probably would formulate: to educate is to bring the totality of the individual into relationship with the totality of society and community.

With such a content of education we may believe that both the leftist and the rightist politician could agree. And for the teacher it says nothing about *how* to do it. It does emphasize that education is first of all not a question of method but of principle, and first of all, a *human task*.

To meet this task we must face the double question: what to teach and how to teach, of which we consider here the latter

as the more important. The answer to the first question is: not everything. Whatever has to do with life the most comes first. Prefer spirit to information. And generally: work done for school's sake or teachers sake is not enduring because not school, but life, is the goal.

It is stated above that education is first of all a human task, corresponding to a common need for help. Everybody needs help and everybody should help. Therefore everybody has to educate and educating is not the task of the teacher alone. The conclusion for an educational community is that all members are more or less educators as well as pupils of each other.

If in addition, a graduation of differences in activity and importance between layman and professional is wanted, then we have to recognize that the younger the pupil the more help he needs, and the most important educators are, naturally, the parents. But the failures of the parents increase the importance of the teacher. The older the pupil, the more difficult it is to influence him, to change, to correct him. And this requires the greater skill on the part of the teacher.

Seen from two other angles: the nearer the relationship, the easier the influence. Therefore, as educators, let us be parents and friends or comrades and collaborators to our students. Secondly, the broader the experience or insight, the deeper the influence and the confidence. Therefore as teachers let us have competence and authority based on our own work.

Thus the teacher requires our special interest. But for him the student is the main consideration. Although in this article teaching is the central problem, for the teacher, learning remains the basic problem.

To educate means to develop, to liberate, to unfold, to make grow. And this related to the whole being of the pupil.

If lecturing has that effect, we will call it a good means of education. If lecturing only gives information we should not call it education.

For knowledge as a collection of facts is impotent unless we find a way to correlate them, to group them, to see cross-sections and interpenetrations, or to relate them to other fields and to life in general. More important than to state is to combine, to use.

Simply knowing something or many things produces very easily a kind of pride which enjoys heaping up money for heaping's or for money's sake. But pride of possession is poverty just as pride based on power is fear; both are unproductive.

Only dynamic possession is fertile, materially and spiritually. Therefore let us consider knowledge not as a static possession or as a goal in itself, but as a means.

After hearing or reading must come seeing. Real educational growth starts through making discoveries, through using facts to build conclusions and viewpoints of our own, through moving toward a feeling for atmosphere, mentality and culture.

We may feed youth and they may eat and enjoy eating our food but its assimilation should receive our greater interest.

If we understand education as a kind of nourishing, then associations with the word digestion suggest various methods of teaching. For instance, cooking should be an art of selection and combination. And to overfeed disturbs, wastes and spoils. Or, compare homemade food and manufactured foods. Again, canned food has less vitamins than fresh food, as a form letter is less direct than a personal letter.

One can suffocate with knowing but never with experiencing. We forget easily what we have heard or read or learned, but we do not forget what we have experienced. Wisdom is more a result of *experience* than of knowledge. And, what ethical effect is there from a pure knowing of facts?

Of course, we need to know facts, to have a literal knowledge; but certainly facts and committing them to memory have been overvalued. In collecting facts the non-facts in between them, the unknown X's, have been forgotten. And, many of the so-called facts are only *interpretations* of fictions.

Of course it is wrong to turn from facts to verbiage, to talking *about*. But a living mind is neither an herbarium nor a dictionary. Better let us turn from word to work, from reading *about* to reading and doing. Let us open eyes and minds even more than books.

We may believe that the invention of Gutenberg caused a great widening of education; we are not sure it caused so much a deepening of culture. But quality is more important than quantity.

We must realize that there are learned or well-informed people who are in fact unlettered, uncultured, uneducated. Learned illiterates read and write and even teach. There are also illiterates of life, as there are unlearned people with great wisdom.

These samples of bad and good development may show again that knowledge is not the first goal in developing human beings. That the way of living, the way of thinking and working, is the decisive thing. That the attitudes toward other people, the readiness for a social living, the development of the *will*, need our first attention.

We believe that we can develop a social will as well as a productive will in a small but mutual community where spiritual growth is understood as more than good marks and records, examinations, and sport trophies. Where living and working together is comradeship during the whole day, and day by day, a continuous and really close contact is given between different characters and habits, different inclinations and abilities. Where, unavoidably, we have to learn to classify, and to dispose in proper order, ourselves as well as our neighbors. And too, where, besides this indirect treatment, self-education is recognized as the strongest influence.

About community and self-education, which could arouse a broad discussion, we shall explain only a few terms to get some new perspectives.

One of the fashionable terms in pedagogy is *balance*. It is mostly understood as tranquilization, a pacification of polar or opposite qualities. But we note that a pendulum will only swing if pushed out of its balanced position. That is, seen in this light, an actual equalizing or leveling – in short, a perfect balance – is dead. That means an alive or dynamic balance must have an overweight on one side, and it must be a positive one to be productive.

Moreover, to be balanced usually means to be balanced only in one respect. But besides the *internal* balance we recognize also an *external* one. An externally balanced person is conscious of a social adjustment to his environment and is able to tune his state of mind towards different people and changing situations.

Just this ability to *tune*, to influence intensities of action and reaction, is of great social value – like the volume control in radio which is valuable to both sender and receiver.

Such self-balancing, in relation to the needs and demands of others, must be dynamic also – that is, positive towards others. It leads organically to tact and sensible behavior more than rules and regulations do.

In connection with these considerations, let us briefly indicate that we prefer class work to tutorial, that challenge is no substitute for authority. As in the sphere of government: no adding of opinions and semi-opinions can ever make us omniscient; no amassing of leveled or equalized minds can make us omnipotent. Often reverence and respect are more than responsibility. And, community is no matter of traffic or of management but one of spiritual communication.

If we seek for a better school, it means we seek for a more intensive living. Then let us concentrate on this, in its aims for the students and in its demands on the teachers.

A modern school is aware of and related to our time and its needs. Hence, it cannot be stereotyped, must *change* continually.

If we want to have modern pedagogy, in keeping with the spirit of the age, then let us make instructing and teaching into *education*. Let us turn information to discovery and invention, and know that pure repetition of others' thoughts does not produce productive pupils. Not every interpreter interprets, and some intermediaries merely interpose. All schools should know that dialectic thinking is not the one way of thinking – there is, for instance, constructional or building thinking. Moreover, let us know that our lecturing is infectious only if based on our *own* thought, our *own* experience, and our *own* research work.

Then too we should recognize that we over-value *acoustical* education, which means the oral and aural communication, and that many classes attract only idle curiosity or offer only ephemeral entertainment.

Words may attract, but examples inspire and fire. The example is the strongest medium of education. The indirect influence of our being and doing is more effective than many may believe.

Therefore, we can develop other people only if we develop ourselves. So let us change together, teacher and students, from the onlooker to the observer, from statement and content to idea and vision, from knowing to seeing: because *intuition* makes us creative.

We believe that somewhere and somehow everybody can be intuitive and creative. If this idea should penetrate all school work done by understanding educators, flexible and dynamic enough to grow by themselves, able to cause growth and, even more, to *let* grow, all school life would improve. Of course there are better and worse pupils and classes; but as teachers interested in development we should not blame students for educational failures. There are other conclusions to be drawn and better solutions to be found.

If we teachers are ready to work and to learn side by side with the students, through the students, and reciprocally with the students then we will develop, away from lecturing desk and pulpit, individuals who cannot be labeled by adjectives meaning some sort of discipleship.

So we hope to get an individual – not an individualist – who is consciously attuned to a mutual give and take with his contemporaries: who knows that the present is only *partly* a result of the past, that life looks forward and goes along independently of figures and numbers, that creative work leads forward more than pride of tradition, of power, of possession, or of social registration. But who does acknowledge pride of *ability* and also that every evaluation is relative and changing.

He is no all-eater, no all-believer, no all-reader, and not an admirer of only the biggest and best attractions. He has a selective mind seeking quality.

He tries to attain a critical objectivity and an understanding from different angles. He is not waiting to lead others or to be led. He is occupied in leading himself, and believes in creation, not through organization but through individuals. He believes more in thinking than in talking, and that power is less than strength.

But besides speaking about such an ideal figure, let us include ourselves in such educational purposes.

To liberate others needs first a setting free of oneself. By being free we should understand not only being free from something, but being free *for* something. In the same way we should think of the typically American term: independence. Freedom and independence, so understood, will enable us to give help wherever help can be used.

To distribute material possessions means to divide them, but distributing spiritual possessions results in multiplying them. Giving away depends naturally on having something of one's own. And a valuable distribution must have substance worth giving.

In building up spiritual possessions and through this a spiritual constitution, we have experienced that the broader the base the higher the top. This means in particular that specialized studies need a general foundation, and so must come at the end. In general, it means: a single viewpoint cannot give a firm, solid standing; again in general: the higher the top, the broader the view.

All school studies can be only a *foundation*. The more this foundation encourages a building on it *after* school, the better the school. So, the result during school is less important than the process. The proof of a good school we can find only in later life.

We have our life to *live* it. So, as spiritual beings, we must cultivate spirit. Consequently, in school let us emphasize spiritual or cultural fields and manifestations which penetrate or cover the most life.

If we had to determine generally the purpose of all school work, we would formulate: let us simply be and develop *living human beings*, or in other words, *professionals of life*.

School is only a start, never an end. Therefore: *viva vita*.

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Unpublished typescript including handwritten corrections and additions, inscribed by Albers "written in December 1936," Box 27, Folder 253, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Text probably written as a second foreword for the re-edition of "Concerning Art Instruction" (1934). For a full reproduction of this text, see p. 218.

## Truthfulness in Art (1937)

As long as we believe that the architect or designer has a right to exist side by side with the engineer, so long do we recognize that in designing there are besides technical and economical problems also problems of form which are independent of a pure functional approach.

In other words, we do believe that there are some artistic tasks which have to be solved through a direct seeing, that means, by intuition or vision, and through a direct feeling, that means by taste.

Therefore, in my first talk last year here – on functionalism and formalism – I came to the conclusion that every designer has to be a functionalist and a formalist.

As long as we are not omniscient, in our work we will meet many unknown and incalculable X's which make it impossible to find every solution by figuring, reckoning, and calculating. Besides figuring and calculation, we have to do figuration.

As soon as we discover that taste as a personal attitude or that individual reactions – for instance related to proportion or color – result in a definite but immeasurable effect – as soon as we discover that individual attitude and psychic reactions are different with different people, we have to conclude that every need is manifold and that in any task there never is only one solution.

Concerning color, for instance, which is more a psychological than physical phenomenon, we know that women have a different approach as well as reaction to color from men. That young people experience color differently from older persons, that evaluation of color as a psychic experience changes through the generations. That we cannot agree any longer about the color appreciation Goethe described a hundred years ago when green was a favorite color. Because now green has been out of fashion for many years. (But that you don't misunderstand me, I believe that independently of this statement Goethe's color theory is a very important and still a very enlightening work).

Or let us consider proportion, a term not very much beloved in functionalistic ideology. Unbeloved in spite of the fact that proportion is justified by psychological and biological needs, not only by esthetical demands.

In order to prepare my later considerations I should say more about proportion. I suppose that several facts on proportion are known here but let us repeat them to get a complete basis.

Let us be reminded first that proportion means relationship. And that good proportion we often can get without any material effort but through spiritual effort, which we should understand as a most sensible and most cheap effort.

Speaking generally, proportion is more than a question of distance related to length, width, and height, it also has to do with areas, masses, and weight, which altogether means quantity.

Furthermore, proportion is concerned with activity, that means the relationship between importance and unimportance, it has to do with intensity. Therefore proportion is concerned also with quality.

Since this kind of proportion, proportion in activity, importance, intensity has significance in art as well as our whole life; I like to explain it more by showing some older art work which emphasizes what we could call psychological truth in art.

First I am going to show you some portraits by Goya, after that some pictures of Mexican Indian plastics (ornaments); purposely I shall not touch the historical side but hope that we will realize a near connection of that art work with modern art problems.

I don't know if it is stated already somewhere else that the eyes in Goya's portraits show a very strong activity. Those eyes are often so emphasized and are relatively so let's say "loud" that we could think they must somehow be wrong from a certain, maybe naturalistic viewpoint, but I believe Goya is right from another angle. (I suppose here it is not necessary to explain that there is no objective likeness, not even in photography.) (One may say: Well, they are Spanish eyes, but that does not touch the problem.)

In watching ourselves while looking at a person we will discover that our attention is mainly concerned with the person's head. Looking at a face our greatest interest is normally concerned with the eyes. Looking at a speaking person, of course, we will observe the mouth.

If we would try to collect all adjectives we use in describing eyes we would be astonished about the long list of words which qualify eyes. Words related either to the character of the person or to characteristics of the eyes themselves. Many words that tell us about their appearance, their form, color, attitude, and also their activity. Words which are friendly or less kind comparisons, also comparisons with animals, metal, stone, and other things. (A similar list of words for the mouth or body or the legs will be comparatively very short.)

We see already our language is a proof that the attention we pay to a figure, to a head, is very unequally directed and very unevenly absorbed.

This attracting of our attention in a definite direction and also the distracting it in another direction is an essential task, for instance, in modern typography. This directing of our interest or the adherence to such psychological proportion we will see recognized and applied throughout all Mexican plastics.

The head is the most important part of the figure, the body and the legs are less weighty.

Active hands are emphasized, like speaking mouths.

Quantity is used to emphasize intensity.

Inactive, unimportant, or uninteresting parts are only indicated or neglected. There are even figures without bodies. You will find without my explanation in which direction our interest is led, where our attention is absorbed.

Most photos shown were taken without moving or separating the plastics from their environment, just as they are placed in the museum.

In answer to the question "What is plastic," I should say plastic is active volume. Let me explain that with a comparison. A shrunk apple is less plastic than a fresh one. A young skin has more plastic power than an old skin, in spite of the fact that for instance, an old face may have more form than a child's face.

Plastic needs something like the bursting force of hydrostatic pressure or bursting with exuberance.

I am sorry that I could not find a good word for this quality, but if we abstract from the terms "turgescence" and "tumefaction" their pathological quality, you may understand what I mean. It means the expanding power on the inside of a balloon. It is something like plentiness or resilience. Remember some plastic works of Maillol and you will see this kind of plastic, or see here a Greek example.

You will recognize in these pictures there are many different human types, different moods, different behaviors represented. But always we see a definite idea, a definite expression. Watch how differently the eyes are done.

No generalizing stylization (compared with Egyptian plastic), but an unlimited richness and always great monumentality. So I believe no other country, no other period has such a rich and vital plastic work. In seeing more of these plastics you will be reminded sometimes of Egyptian or Cretan or Roman plastics. Or Persian or East Indian Art. We see [a] relationship to Chinese, Japanese, and South Sea art. They seem sometimes Romanesque, Gothic, Baroque, and so on.

What are the reasons or conditions for such richness and such vital power?

The answer to this question can teach us two directions: Intuitively, we must be truthful to our vision, our conception. Intellectually we must concentrate on importance. In other words, let us be no all-eater, no all-reader, no all-believer, let us be selective instead of being curious.

In education this means that seeing and selecting are more than to collect knowing something.

Great art does not ask to look at it – it looks at us.

I cannot agree with historians who insist on calling this art primitive. In my opinion such plastic work shows not only a highly developed psychological understanding of human nature, it also shows besides an extremely strong visionary power, a very cultivated artistic discipline.

This discipline we will recognize still better if we understand that every artwork is based on a thinking out of the material.

Mexican plastics are done mainly in stone and clay. But the respect the Mexican sculptor always had for his material never leaves us in doubt about the material.

All stone work is definitely stony, all clay work remains clay-like, every stone is obviously carved and never tries to compete with painting or drawing.

Mexican stone plastics don't have parts sticking out. So they almost never are broken. We seldom will find lost heads or broken limbs as is often the case with, for instance, Greek sculpture. That is a significant proof that the artist has not overaimed and that the material has not been over-charged.

Now let's see how differently from stone, clay has been treated. The Mexicans never forgot that clay is a half fluid or semi-fluid material. It has to be kilned to get firm. The dominating problem was always how to keep clay clay-like. As a dough-like material it needs more kneading than modeling, and it intends primarily to build cake-like flat elements or little globular or sausage-like forms. These protoforms in clay have been repeated in Mexican clay plastics throughout the century through all the different Mexican tribes and different civilizations.

The procedure of firing clay (we know that from pottery) demands a certain and also an equal thickness throughout the whole work. This technical necessity has kept all Mexican clay sculptors very careful in this procedure. I am sorry that my photos don't show this technical discipline, but I suppose that you can see that all clay work is really pottery in its treatment as well as in its appearance.

In this connection it seems to me that the degeneration in the plastic work of the last generation is due to the fact that clay became a substitute for every kind of material. Since we have modeling in clay as preparatory work for plastics in different stones, different metals, different woods, different artificial materials, since the characteristic qualities of clay are sacrificed, almost every material has lost its plastic characteristics.

My conclusion for art instruction is, don't start plastic studies with clay because clay has the disadvantage that it allows every imitation and that is its danger. So let us recognize again the great discipline of the Mexican sculptor.

It teaches us: Be truthful with materials.

My third point on Mexican plastics is its truthfulness to art.

One of the most misleading hypotheses of the 19th century is that the purpose of art is propaganda. Propaganda of an agitative type. It has been pointed out that Christian art is a proof, but what about music and architecture as mediums for propaganda? Art, we should believe, has a life of its own.

Walking through the museums in Mexico you will notice soon all the little notes explaining all the historical facts of those plastics. (They don't appear in the photos because I put them away.) Notes mainly concerned with the religious meaning of those figures. All Americans should be glad that these notes are typed in Spanish. Because they don't help a bit to understand the figures as plastics. Like the value of a rose doesn't increase when we know its name, its descent, or its price. We either don't live nor understand any more the old Mexican religion [sic]. But for open eyes [the] art value of those plastics is still living, still exciting and overwhelming.

Quality in art is more permanent than any propaganda connected with it.

The Mexican artists have been truthful to art. I believe they did their work primarily for art's sake, for the fun of creation. They did *l'art pour l'art* which has originally and really a positive sense.

As my last picture I want to show you only a few ornaments – some woven ribbons.

There we can study again a very modern art problem. The relationship between active and passive, a certain proportion between positive and negative elements, a proportion very rare throughout all European and Oriental artwork.

In looking at these ribbons we will have difficulties with the patterns in finding out what is figure and what is background.

As we see them here reproduced in black and white, when we follow the white form we see a complete composition, but soon the black leftovers tell us just as intensively "we are not background, we have the same right to tell you a composition," they have the same activity.

If we start reading those patterns with the black forms we will have a similar experience with the white forms. You see, a new kind of richness and vitality received through sacrificing the separating boundary between positive and negative, active and passive. Here it is made possible to understand negatives as active, and to see passives as positives, indeed a very clever solution. A solution that ends a classification of figures and background, a separation between high and low. It is a demonstrative opposition against the proportion of monuments with tremendous pedestals and little or nothing on top of them.

I believe that has a very valuable sense.

It teaches us a very high social philosophy, in this way: Every part serves and at the same time is served.

In recapitulating our considerations let us learn from the Mexican artist truthfulness to conception and material, truthfulness to art as spiritual creation.

In connecting this talk on old art with my talks of last year on modern art problems I would like to give you to consider a formulation that occurred to me in Mexico:

Rational functionalism is technique,
Irrational functionalism is art.

Art is creation
It can be based on but is independent of knowledge.
We can study art through nature,
but art is more than nature.

Art is spirit
and has a life of its own.

Art in its nature is anti-historical
because creative work is looking forward.

It can be connected with tradition
but grows, consciously or unconsciously out of an artist's
mentality.

Art is neither imitation nor repetition
art is revelation.

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Unpublished lecture given at the Harvard Graduate School of Design, Robinson Hall, December 11, 1937. This lecture was widely appreciated both by the faculty and by the students, and the secretary of the Department of Architecture asked Josef Albers for a copy of the manuscript of the lecture to be shared with the students on the following December 15. During this second visit to Harvard Graduate School of Design Albers gave three seminars on color, concerning "The Relativity of Color" (December 9), "Light Intensity" (December 10), and "Fechner's Law" (December 11), assisting Professor Feild, in charge of an introductory course in design for undergraduates in Harvard College and Radcliffe College. Original typescript, Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Typescript and photocopy, Box 39, Folder 19 (2), The Papers of Josef and Anni Albers.

Josef Albers had taught three other seminars one year before, following an invitation by Dean Joseph Hudnut, even before the arrival of Walter Gropius at Harvard in 1937. For that first visiting appointment, Albers proposed "to conduct some theoretical conversations with practical exercises, the purpose of which [was] to give an understanding of the new problems in art, especially in architecture." Albers suggested the following twelve themes as the "start for [their] discussions" and had the aim of treating them "more from an artistic or cultural, philosophical or economical point of view than from an historical one": 1. Tectonic and atectonic architecture. / 2. Painted, drawn, sculptured, architecture; abstract architecture. / 3. The increase of the interest for *Materie* in modern art development. / 4. Combination, construction, composition. / 5. What is stone and what is clay form, what is glass-, metal-, wood-form? / 6. Formalism and functionalism. / 7. Wall papers and wall painting. / 8. Modern architecture and modern typography and their relation. / 9. Curtains in exterior architecture. / 10. Man as the most important furniture. / 11. Modernistic or modern, fashion or development. / 12. Historical studies and creative studies. From this series of themes, both Hudnut and Albers finally selected the fourth, the fifth and the sixth seminars, which Albers imparted on December 7, 8, 9, 1936. Letter exchange between Dean Joseph Hudnut and Josef Albers from February 21, 1936 to December 2, 1936, Box 1, Folder 11, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## [The Concept of the 19th Century…] (n.d.)

The concept of the 19th century
that man is the objective of art
is misinterpreted when the human figure
is claimed the superior or necessary content of art.

It is just as false to declare
that pictorial formulation
which does not tell a story about people
– particularly not showing only under-privileged
and/or ridiculing all normal beings –
is inhuman.

To see only hunger and blood on the one side
and only vice and crime on the other
that is (to quote one agitator) "editorialized communication."
It presents neither man nor life,
but "processed" agitation.
It demonstrates prejudice if not perversion,
and proves incompetence about both
man as well as art.

As long as architecture and pottery,
Moorish ornaments, Persian rugs, Gothic lettering
have been and will be considered art,
so long will both representational as well as presentational art
reveal man and humanity
– more than any pictorial political distortion.

If one is unable or unwilling to hear music, poetry
he is entitled to avoid them
but not to condemn them.

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Undated unpublished typescript, Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Typescript carbons with handwritten notes, Box 79, Folder 26, The Papers of Josef and Anni Albers.

## "Vorkurs" 1923 (1938)

The material studies of this course faced the given task of preparing the students of the first semester (their trial semester) for the later craft-studies in the different workshops of the Bauhaus.

The students were to be introduced to a simple or elementary but proper use of the most important craft materials, such as wood, metal, glass, stone, textile materials, and paint, and the relationships as well as the differentiation between them.

So we tried – without anticipation of the later workshop practice, and without workshop equipment – to get an understanding of the fundamental principles of construction.

Therefore, we analyzed and applied through manual work typical combinations and treatments of materials. To get, for instance, a general understanding of wood we visited the workshops of carpenters and cabinet-makers, of coopers and cartwrights, of box, chair and basket makers, in order to learn their different uses of wood, and the different capacities of, for instance, flat grain and quarter-sawed wood, split and bent wood, plywood, and to learn the proper way of joining: to glue, nail, peg, and to screw.

We tried to apply our knowledge in making useful things: simple implements, containers, toys, and even little furniture – first of one material, later of combined materials. But as already indicated, with simple everyday tools, and without machines. (Unfortunately there are no photographs of the results of this course.)

Thus in the first year of our course, we studied material more or less on a basis of handicraft, that is, in conscious connection with the traditional use of it.

But soon we expanded our material exercises on a more inventive and imaginative basis in order to get a fundamental training for later specialized design, as is briefly described in my article "Werklicher Formunterricht" [Teaching Form through Practice] on page 211.

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First published in *Bauhaus 1919–1928,* ed. Herbert Bayer, Walter Gropius, and Ise Gropius (New York: The Museum of Modern Art, 1938).

Typescript signed September 1938, Box 27, The Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Signed September 1938.

Typescript with handwritten corrections and note stating "This is the only remaining copy of a text written for the (Bauhaus 1919/28) catalogue of the Museum of Modern Art in New York. It was only partially used in the catalogue. *Reserved*, do not lend! Annex: first corrected version," Box 81, Folder 17, The Papers of Josef and Anni Albers.

## Speech at Black Mountain College Luncheon, New York City Cosmopolitan Club (1938)

To distribute material possessions... is to divide them.
To distribute spiritual possessions... results in multiplying them.

In building up spiritual possessions – which in reality is education – and through this a spiritual constitution in pupils and students we can experience that education is somewhat like a mountain (sometimes maybe like a hill). From all possible ways of applying this comparison between education and a mountain, I like to emphasize here only one viewpoint: The broader the base, the higher and firmer the top. The higher the top, the broader the view. Therefore, in school, in college, in university, first and second and third comes general education as a necessary foundation for all specialized studies which come later.

Therefore, the teacher's greatest interest belongs to fundamental education, to basic and elementary studies. We all know that work done only for schools' or teachers' sake – let's say for instance for examination, for graduation – is not essential work. It does not endure because life, not school, is the goal for all schooling. There are many good reasons for formulating so-called academic standards, but productivity is another thing and stands above them.

In order to get here a less abstract start and to be more concrete, let me show a simple situation:

Everybody knows one and one is two.

But as soon as we don't see that only from the factual, mathematical side, but from the form side – in other words with an artistic eye – we can see one and one makes three or in this way:

one and one makes four
and even one and one is one. (Formal explanation.)
This may seem a trick or joke, but I see it as reality.
But sometimes we need a caricature for explanation.

For explanation's reason, let me repeat a Black Mountain saying: "To see grass only as an edible vegetable, every cow does that." But as soon as we try to see grass for instance as a carpet or as fur or as a forest (suppose we imagine our eyes deep enough in it), or when we see it as a color or as a plastic appearance – there is starting the human being which naturally wants to be creative.

To repeat a sentence from our latest pamphlet: "Creating is the most intensive excitement we can come to know." Seeing for instance grass in the described way, there is starting the poet, the artist. If we


Herbert Bayer, Walter Gropius, and Ise Gropius (eds.), *Bauhaus 1919–1928* (New York: The Museum of Modern Art) 1938

don't like to consider all people as artists (but I am inclined to see man in this way): Then, there is starting the flexible or productive mind that wants to do something with the world around him. Then we are on the way to the researcher, discoverer, to the inventor. In short, to the worker who produces or understands revelations

one and one is two – that's business.
one and one is four – that's art – or if you like better – life.

I think that makes clear: The many-fold seeing, the many-fold reading of the world makes us broader, wider, richer. In education a single standpoint cannot give a solid firm stand. Thus, let us have different viewpoints, different standpoints. Let us observe in different directions and from different angles: In order to develop in youth flexibility which is readiness for changing tasks and situations.

When I said in the beginning that distributing spiritual possessions results in multiplying them, then I have to explain here that spiritual possession means more than pure knowledge. Simply knowing something or many things produces easily a kind of pride which enjoys heaping possessions for the sake of the heap, or the sake of the possessions. But pride of possession is poverty – just as pride of power is fear. Both are unproductive.

Only dynamic possession is fertile – materially as well as spiritually. Therefore, let's consider knowledge not as a static possession or as a goal in itself, but as a means. For what? For coordination, interpenetration, cross-sections, conclusions, new viewpoints.

For developing a feeling or understanding for atmosphere, mentality, and culture.

It may seem after these explanations that we at Black Mountain College are developing whimsical dreamers, but I believe we don't.

First: Most of our students are working very intensively, and the examinations held by outside examiners show very good results. Second: Recently the father of one of our students, a hard-boiled businessman, made this statement – that we, at Black Mountain College, through our education concerned with flexibility and cultural aspects, will develop also the kind of businessman America needs now.

To explain my belief that we are on a productive way I should like to illustrate our practical work, to give you some details of our art classes. In the painting classes which we call color classes we are concerned during a whole semester only with studying color qualities as such: their relativity, their dependence on quantity, on form and placement, their different activities and psychic effects, and after that we are going to paint.

In *Werklehre*, which is practical design course, which means design "not on paper," but design "in material," we do fundamental studies of the capacity of the material in constructive exercises, and we study the appearance of materials in combinative studies. It would take too much time to go here into details. Briefly stated,

*Werklehre* means the study of all general art problems, which are usually not included in the ordinary art courses, as painting, drawing, sculpture. Any architect, for instance, or designer has to deal with space and material. For this kind of work neither painting nor drawing nor sculpturing can be a real preparation. Results of our instruction may be seen in the Bauhaus exhibition, now at the Museum of Modern Art, which opened yesterday. You can also see there some artwork of Black Mountain College. Black Mountain College was the first institution in the United States to call members of the Bauhaus to its faculty.

We don't have special courses in Art History, but we see the old art works in relationship to our own work. During the year we have many art exhibitions. We discuss, for instance, glass form as different from metal or clay form, or that bronze plastic is necessarily different from stone plastic. We differentiate, for instance, tectonic and atectonic architecture, and learn that both functionalism and formalism are misleading terms. Instead of memorizing names and dates we analyze artwork from, for instance, a compositoric, psychological, social viewpoint.

All art studies are considered as part of general education. The main interest is not the result but the process of growth. It is handicraft because real art works as a free personal expression usually come later, after schooling. We are against self-expression as a dominating principle in school work. We prefer class work to tutorial, because we believe that the influence from the student is often just as important as the influence from the teacher, and for the discovery of the varied perceptions of others.

To say it in another way, our art studies are studies about ourselves, to recognize our inclinations, tendencies, abilities, potentialities.

That may explain that besides flexibility – I emphasized before – discipline is not forgotten in our teaching. Or: Besides imagination, we are also concerned with the development of will.

Now after so much advertisement for our art classes, I should like to go back to some general principles.

To illustrate our educational goal, may I draw an idealistic picture (because we are idealists) of the man we like to have after his studies in college and university. Because we can judge the real value of a school only in later life.

This man is an individual, not an individualist, who is concerned in a mutual give and take with his contemporaries. Who knows that the present is only partly a result of the past. That being creative leads forward more than pride of tradition, power, possession.

The only pride he admits is pride of ability, and he knows that every evaluation is relative and changing.

He knows that life looks forward and goes along independently of statistics, that life has greater forces than economic interests.

He does not wait lo lead others or to be led. *He is occupied in leading himself.*

Therefore, he is not going to be swept away by mass movements.

This man here, of course, is only an ideal figure, but [one] worthwhile to think about throughout all education, in this time of mass prejudice and mass psychosis.

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Unpublished speech given at a Black Mountain College Luncheon, the Cosmopolitan Club, New York City, December 9, 1938, one day after the opening of the *Bauhaus 1919–1928* exhibition at The Museum of Modern Art, New York.

Original typescript with date and texts clarifying it was the "last copy!" [sic] in red pencil by Josef Albers, Box 27, Folder 254, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescript and carbons with handwritten corrections, Box 39, Folder 21, The Papers of Josef and Anni Albers.

The talk centered on flexibility in education. There is an almost identical earlier paper presented at the Black Mountain College luncheon at the Faculty Club, Cambridge, Massachusetts, on April 19, 1938, in which Albers included a few other details of their art classes, regarding the number of students participating in each course and the teaching methods used in drawing and mathematics. These texts anticipate many of the themes developed in "One Plus One Equals Three or More: Factual Facts and Actual Facts," the most popular of the three lectures that Albers gave at Trinity College in 1965, published in *Search versus Re-Search* in 1969. For a full reproduction of this lecture, see p. 295.

One of the main points of this paper is the double explanation given by Albers to counteract the idea that Black Mountain College was "developing whimsical dreamers." First, examinations were held by outside examiners; second, even the father of one of their students, a "hard-boiled businessman," had made the statement that, through an education concerned with flexibility and culture, Black Mountain College was also developing "the kind of businessman America needs."

## A Very Short Story (ca. 1939)

Three connoisseurs
met in a gallery
in front of an exhibit.
One finally said "Hm!"
The next one only "Hm?"
And the other "Hm."
That's all they said.
All understood each other.

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Written in both English and German, "A Very Short Story / Schweigend Verstehen," n.d., handwritten, typescript, and typescript carbons with handwritten corrections and notes, Box 81, Folder 25, The Papers of Josef and Anni Albers.

Albers quoted this short story in his lecture "Concerning Abstract Art" (1939), see below.

English typescript, Box 22, The Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

First Published in *American Abstract Artists* (New York: Ram Press, 1946), 63–64. Reprinted in Patricia Zohn, "CultureZohn: Ab Ex NY: A Contemporary Re-Telling of the Abstract Expressionist Tale Opens at MOMA," *Huffpost Arts and Culture* (posted September 30, 2010), http://www.huffingtonpost.com/patricia-zohn/culturezohn-ab-ex-ny-a-co_b_743149.html.

## Concerning Abstract Art (1939)

Let me start with the statement that all of us in our daily life have to deal with and do judge abstract form. By abstract form I intend to say here non-representative form, form that exists for its *own* sake, namely for *form* reasons.

Let us find a few examples: If you buy a hat you will sometimes, even before trying it on, compare the form of that hat with the forms of other hats.

In making then a selection, you do not compare the form of a hat with anything in nature, for instance with stones, trees, animals, a flowerbed or a battleship. You judge simply its form as such, or its relation to yourself, your skin, your hair, your head, and you will choose according to your taste. The same procedure will occur in selecting shoes, furniture, china, or an automobile. Irrespective of usefulness and price, sometimes even without asking about expense or suitability, we enjoy applying our taste, that is, evaluation of form. Furthermore, we enjoy expressing our likes and dislikes and we are unhappy and distressed when we are not sure of our esthetic judgment for the final decision.

Or, why is it that we like this necktie or prefer that scarf? Why are we enthusiastic or embarrassed about a dress, or call it a dream, or say swell, or darling? Not because those things remind us of something they might represent. No, only because we have a feeling, a direct psychic reaction to color, light and dark, we have a feeling for shape and order, a feeling for texture and for surface qualities. That altogether means we have simply a feeling for form.

About color we know, for instance, there are warm and cool colors. We associate gaiety with brightness, seriousness with darkness. Concerning shape, we understand curves as smooth, gentle, organic; zigzags as hard, strict, inorganic. We all know that some order or arrangement gives us a stable, static feeling – as for instance classic architecture does; whereas both Gothic and Baroque architecture give us a feeling of dynamic movement.

In order to speak in art terms: We all are sensitive to harmony and balance, to proportion and rhythm. As long as you like a doorway because of its proportions, or a rug because of its order of color and form, so long you are dealing with abstract art.

The most abstract branch of art is music. Everybody likes music, but we call a person musical when he is moved by music, when he reacts emotionally with gaiety, sadness, dignity and severity, when he feels warmth or power, clarity or color, or the interchange of those different moods. Usually, by listening to music it is not necessary to think of anything in nature that the music is trying to imitate or represent. Music has life within itself.

Nobody expects a composer before he composes his work to go into the woods to get acoustical impressions, real or imaginary, from a roaring lion, or a barking dog, or something nicer – a singing thrush or mockingbird. It is all right with everybody that he compose out of his imagination and through his medium – tones. We must be grateful to him if he creates a tone organism that lives as music.

The same liberty in composing and combining we grant the architect when he designs houses, furniture which pleases us, not because of any literary content, but because of their balanced proportions or attuned materials.

The same tolerance we show to the dancer, the weaver, the gardener, when they demonstrate imagination without any purpose of representation.

(Everybody who likes the dancer, Fred Astaire, is an admirer of abstract art. And everyone who wants to be able to dance as well as he does, wants to be an abstract artist.)

To recapitulate: We all appreciate abstract art in music, dancing, architecture, furniture, etc., because there we recognize living form which attracts and moves us, which does something to us and within us, without any representative and imitative content.

But as soon as we come to the formative arts, i.e. the work of the artist, painter, or sculptor, we find very often a reluctance to grant the same liberty.

The general purpose of all art is permanently the same; namely, to express and to generate emotions. The task of art is primarily not information or entertainment, even though they have been and can be included.

Why, then, don't we give the artist the same right we admit to the musician and architect: To compose, to combine, to construct, in a non-representative (i.e. in an abstract) way in order to create form organisms which have life within themselves as music has?

Here we must expect the veto: "But I don't understand such art." I have, and maybe several of you have, experienced that children have a much quicker and more direct contact with abstract art than grown-ups have.

Why is that?

Simply because a child likes red, and round, and shiny much more than we normally do. He enjoys such qualities more intensely because in him the sensuous contact with the world dominates.

The adult, particularly the educated adult, prefers an intellectual contact, and therefore often un-learns and suppresses the joy of his sensuous faculties.

When we sometimes say of the artist that he preserves a childlike approach to the world, we are saying this particularity to the intellectual and against over-intellectualization.

To understand music is more to listen and to feel than to think about it. To understand paintings is more to see and to feel than to analyze. Therefore, in art there is no real understanding in the usual, intellectual sense of the word.

Let us repeat: To provoke sensuous perception and emotional participation is the aim of any artwork, particularly of an abstract work since it has no story or content to tell than itself. If we enjoy music musically, that is enough, and nobody should be embarrassed if he feels unable to put his emotional reactions into words. On the other hand, not every explanation of an artwork is proof of an emotional participation. Often, a gesture says more than many words. To demonstrate this, I like to include the only short story I have ever written. It is a very short one:

Three connoisseurs meet in a gallery.
Looking on an exhibit,
The first one says: "M"
The other one answered: "M"?
The third one makes: "M"
And they understood each other.

Thus we come to a significant point: The very fact that there is something in life inexpressible in words is the real reason why we have music, dance, and all the arts, why we have changing styles and fashions. There are vital experiences independent of, and unreachable by thinking and speaking. That is the very reason why we need to whistle and to sing, to gesticulate, and to act, to paint, and to sculpt.

If we are one hundred people here in this room and someone should say "red," we can be sure that there are one hundred different reds in our minds. No verbal explanation will bring us to the same shade of red. Only by looking at one red actually shown here can we unify our seeing.

The inadequacy of language in expressing taste will become more evident if we try to explain what sweet or bitter is. Or try to describe the tone "C" in the middle of the piano keyboard. Neither reading nor hearing about it can give us the experience of a fugue by Bach; only its performance can give that experience.

But curiously enough, language also has its abstract form. You know some refrains of song like

Fulla la fulla la
Tralla la tralla la
Fol de rol fol de rol
Hey nonny Hey nonny

Some German ones
Hei didel Hei didel Hei didel di dumm
Juchheissa Juchheissa Juchheiressassa

Two French ones
Et ron ron ron, Petit patapon
Girofle girofla

Two contemporary American ones
Hotchacha
and Boop boop a doop

Your reaction to these refrains demonstrates that you also enjoy or accept abstract form in words, which is a contentless combination of words.

The moral of this long dissertation is this: In looking on any artwork, first let us feel it and think afterwards, and let us talk still later. An artwork wants to speak to us. It does not want to be spoken to. Therefore, if an answer is necessary let us listen before we speak. And whoever says, truthfully, "But I cannot understand it," consequently has no reason to be pro or con.

The conclusion of this would be to look and look again in order that we learn to see, just as it is necessary to taste often, and many different wines in order to become a connoisseur of wines.

Now I feel that my comparisons between the different art branches – literally or dramatically – have reached a certain end with my challenge to listen, to see, to taste.

But, since abstract art seems often so surprisingly new and apparently unreachable by untrained eyes, I should speak a little

more directly about abstract art. Visitors to abstract exhibitions, as a New York painter says, "will continue to demand explanations. They will wish to know what they are supposed to 'look for' in this art without subject. They will insist that it must be some trick to fool the spectator, that recognizable objects must be concealed somewhere in the canvas. Most answers prove misleading, as there is nothing to 'look for' at all. The paintings here are merely to be 'looked at'. As one might look at leaves or stones themselves rather than representations of them. For they stand with the independence of architectural shapes."

We artists should try to understand the misleading approach, and feel our duty to correct mistakes of an historical art appreciation in order to open the eyes for a creative, artistic appreciation. When some time ago an art interpreter said to me that he is concerned only with old art up to 1800 I saw reasons to doubt his concern with art at all, because the fundamental art problems are always the same – the discovery and revelation of the human soul.

But since the heritage of the 19th century still tries to make us believe that civilization is more important than culture, in education we have a belief that knowing something is better than creating something. I should like to quote Ruskin at this point: "I am impressed with the fact that the greatest thing a human soul ever does in this world is to *see* something and tell what it *saw* in a plain way. Hundreds of people can talk for one who can think, but thousands can think for one who can see."

Here arises the question *how* do people see art? There is a misleading belief promoted mainly by some art dealers and also artist concessionists that a portrait is more than a landscape, an oil painting more than a woodcut, a picture with a famous name superior to one by an unknown artist, or that old paintings are of higher value than contemporary ones.

No. A folk song can be much greater art than an opera. A small drawing can be more art than a monumental mural, or an imitation of a Gothic cathedral, because art is to be measured not by subject matter or medium or size, but by artistic qualities – this means greatness or psychic effectiveness.

Does it increase your appreciation of a rose if you know its name, origin, price, and rarity? Marble is not always more beautiful than bricks. It depends upon application and treatment, and never upon historical dates or anecdotes. The visionary strength, the genuineness of expression, the intensity of emotional effect are what counts. In other words, the things that count are how much the artist was engaged in his conception, how he treated his medium for his expression, and how intensely he speaks to us. Therefore, in art the HOW is deciding, not the WHAT, i.e. figure or still life, oil or pastel.

Thus art practice and art appreciation must be concerned mainly with artistic problems. A principle inherent in all folk art, where ornament is prevailing. I believe that ornament was the first art revelation. As soon as mankind experienced possession, evaluation, and the need for the increase of the value of materials and things began, then embellishment began as a fundamental human need.

All strong cultures developed ornamental, decorative, or formal art. We must be conscious of this, particularly in this part of the world. The original Americans, the Indians, developed one of the strongest formal art of all times. America produced abstract art for thousands of years. Look at Alaskan, Navajo, Mexican, Peruvian textiles, paintings, and plastics. They present form problems very little known in Western tradition (but alive again in abstract art). For instance, the problem of equal activity of form and rest-form, or the problem of the manifold reading of form.

We have too little time to go into details here, but abstract art is no more derivation or repetition of so-called primitive art. It follows the historical growth, it follows that tradition begun with Impressionism which consciously placed the picture above the model, because vision ranks higher than imitation. Abstract art is the conclusion of the art development of the past generations. It is the purification of permanent art aims and the simplification of its demonstration.

Abstract art means only a change in the performance of art. There is a permanent need for esthetic emotion, but at the same time a psychological need for change comparable to the changes of style or fashion.

What we are affected by in any work of art, past or present, is the relationship expressed within it. Proof: As long as we hear in music single tones we don't hear music at all. Music is between, behind, and above the tones. Music is relationship. All relationships move between affinity and contrast, as life does, which is change between warm and cold, wet and dry, or young and old, light and dark. Color and form are living forces. To relate them in active correspondence is to organize living color and form organisms. The more we follow the universal laws, such as harmony, balance, and rhythm, the more we may believe that we are creative. To be creative is to be competitive with the creator. Therefore in art and in abstract art, we are inclined not "to imitate nature's expressions but to imitate nature's working process." As nature shows its power only indirectly, so we are concerned primarily with the forces of our elements and media. We abstract painters believe the very restriction of the means employed has permitted a taste and subtlety no longer open to illustrate painting.

The aims of art are permanent as already explained but the demonstration of it changes parallel to the change of (human) mentality.

In practical art studies, we try to study nature in the most objective and representative way possible. But we think that such studies of nature are not only necessary but also only preliminary. Art comes afterward. Because art is more than nature. Art is spirit. And only as a demonstration of spirit, art is lasting.

Unpublished lecture delivered in April 1939 at Greensboro Art Center, North Carolina; in May 1939 at Charlotte, North Carolina; and in February 1940 at a place unknown. Typescript with written corrections, Box 27, Folder 255, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Typescript carbons with handwritten corrections and notes, Box 39, Folder 23, The Papers of Josef and Anni Albers.

In this text, Albers relied on a quote from John Ruskin (although he initially credited it wrongly to Emerson) to oppose the idea that "knowing something is better than creating something." This quote would recur in many of Albers' later texts: "I am impressed with the fact that the greatest thing a human soul ever does in this world is to *see* something and tell what it *saw* in a plain way. Hundreds of people can talk for one who can think, but thousands can think for one who can see." Albers used the same quote in a short speech given at a Black Mountain College Tea, Cambridge, Massachusetts, on December 15, 1939, but on this occasion, in order to explain that the fundamental task of teaching was simply "to open eyes."

## Five Answers to a Questionnaire from the Museum of Art, Rhode Island School of Design (1940)

*1. Do you consider visits to art museums necessary for the education of an artist?*

It is conceivable that an artist develops in a complete wilderness, that is, in an uncivilized environment, without knowing of any antecedent or contemporary art. But since the development of an artist usually happens in an environment with not the best art forms, and with inadequate reproductions, it seems necessary to subdue the influence of inferior or mediocre forms through a contact with real art, with original works of art. That, today, in a country like the United States is almost exclusively possible in art museums.

*2. Do you consider it helpful?*

Yes. Because only through comparison arises evaluation, and culture relies upon selection of higher quality. It seems also necessary for an artist to experience that there are many ways of expression as there are many ways of reading them, and, that art, as a documentation of human mentality, has changing tasks according to the change of mentality; that therefore art is more than repetition and imitation, it is revelation.

3. *Do you consider it a hindrance?*

Normally not. In seeing other artists' work there may be a danger of discipleship, but personality will overcome this danger, otherwise it does not matter.

4. *What is your opinion of copying old and new masters?*

Very helpful in order to experience different "seeings," to learn different techniques and to develop discipline.

5. *What do you think of the analysis of the composition of ancient and modern works of art frequently being done in art education?*

Helpful in art appreciation if not handled as a "pigeon-holing" of certain mechanical composition schemes, but treated as a result of an emotional order as well as of an intellectual order. Composition should be understood as an order related to artistic problems, and any recognizable order should not be presented as a definite but as a possible concern of the artist.

Unpublished response to a questionnaire sent on March 30, 1940, by Alexander Dorner from the Museum of Art, Rhode Island School of Design, Providence, Rhode Island. Typescript, Box 27, Folder 256, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Alexander Dorner would write a short text on Albers two years later, in February 1942. For a full reproduction of Dorner's text, see p. 322.

## The Meaning of Art (1940)

During Christmas vacation I saw in New York a movie which tried to encourage art studies by saying that everybody is an artist. That was proved in that film simply by the assertion that plowing and planting, or sewing and mending, are art.

The same film made me aware of the fact that the term art as we understand it today was not existing in English until the second half of the last [19th] century. Before that time it meant, as it partly does today, mainly skill, technical ability. That is the reason why we call, for instance, acrobats of the circus artists, and we speak even of the art of war.

Today there is a tendency to confine the term art only to the so-called fine arts, i.e. painting and sculpture. In this understanding the applied arts are of second rate, handicraft is still less, and industry, so to speak, is on the other side of the tracks.

As I see it, art today means more than technical ability or workmanship. Art has become a word for something more spiritual. So I understand under art, besides the so-called fine arts, also music, acting, dancing, writing; also photography and dressmaking, landscaping. I believe that handicraft, as well as industry, can produce art.

As a process, art includes all activities and efforts which express human mentality, either of the individual or of a group, through form – therefore perceivable through our senses. Art as a result, as a work of art, embraces man-made forms which incarnate and reveal – consciously or unconsciously – human emotions, for the purpose of reproducing the same or similar emotions in the spectator or listener.

Coming back to the before-mentioned movie, I do not believe that everybody is an artist, and I cannot believe that, for instance, mending usually is done for the purpose of expressing or arousing feelings. But I do believe that everyone has artistic tendencies, if not abilities, and everyone – at least to a certain extent – everyone appreciates form qualities, such as color, shape, space, movement, rhythm, proportion.

You see, I had to tell you already in the beginning my personal opinions, because there is no objective interpretation of what is art. There are no definite rules or systems by which to evaluate art, or, to distinguish between art and non-art. And that, in spite of many esthetical theories, in spite of many definitions on art.

That there is no comprehensive explanation of art everybody could agree with is caused by the real nature of art. Because art is concerned with something that cannot be explained by words or literal description (figures, statistics). The very fact that there is something in life independent of, and unattainable by, thinking and speaking and therefore inexpressible in words, is the reason why we whistle and sing and gesticulate and dance; why we smile or make a jump for instance when we are happy.

The simple fact that we live more on feelings than on logical reasons makes art such an important factor in life, because art is a demonstration of human life. And just as the question "What is life?" is as interesting as troublesome, the same with the question "What is art?"

In order to say it very simply, our feelings and emotions are the reason why we have music and painting, dancing and architecture, and all the others arts; why we have changing styles and fashions.

When I say red we can be sure that, if here are hundreds of people, we have hundreds of different reds in our minds. Even if I try to describe a certain red, let's say a red we all see everywhere and every day many times, let's say the red of the Coca-Cola signs, I still believe we see different reds. Only the presentation of that particular red can unify our seeing. (But our emotional reactions will remain different.) I gave you this example in order to demonstrate only one experience unattainable by verbal explanation.

When I say ten cents, then I expect that we all see in our imagination that round metal piece, showing on one side a profile of an energetic lady called Liberty; on the other side some war tools or war symbols circumscribed by "The United States of America." Our thoughts may go on and state: from silver, a coin, a dime, or good for two Coca-Colas. This kind of reaction we call, psychologically speaking, association.

When I say "Berea College," nothing more, only "Berea College," and then pause, my words have stopped but our minds don't stop. They go on and you may think, "That's here, that's our college, in Kentucky, has 2000 students," and so on. There we have again reactions which are associations.

But there is also another kind of reaction coming more from our heart or soul than from our brain. Imagine your vacations are soon over; you are soon going back to school. Many of you will say, "Fine (at least I hope so), glad to see my friends again or maybe even the teachers." You feel happy, proud, or, also possible, you are afraid. Such reactions are emotions.

One more example: When I say Black Mountain College, of which you know probably less than of Berea College, that is where our knowledge is limited, our reactions are inclined more to the emotional side. You may think: *?* or: *Such a small one! Only seventy students! Progressive!* Two question marks.

These few examples in order to clarify my statement that art is concerned with emotions; and to indicate that art does not exist for knowledge or information, but for demonstration and experience of emotional approaches, emotional relationship.

When I said before that the insufficiency of words is one reason for the existence of art, then I should not forget a special type of words, which doesn't have any descriptive content, which doesn't remind us of anything in the world of nature or idea, but produces,

instead of an image – just as music does, which produces only emotional reactions – feelings.

For instance:

Trallala Trallala
Hey nonny Hey nonny

Some German refrains:

Heididel Heididel Heididideldidum
Or Juchheissa Juchheissa Juchherassassa

Contemporary American:

Hotchacha or Boob boop a doop

You see – hear – your reactions are obvious.

Now we should remember that also nature causes emotions in us. Looking at a sunset or the starry sky makes us breathe differently. We feel it pleasant to see a good face, a well-proportioned figure, and are enthusiastic about flowers and butterflies, about great plastic clouds or sun reflections on water and snow. A colorful autumn landscape makes us gay; a gray day sentimental. Our reactions in such situations are emotional participations in demonstrations of life by nature.

Here the question arises: What is the difference between emotions caused by nature and emotions caused by art? A bird's song is a combination of tones just as music is, but we don't consider birds' song as music. Therefore not as art. Both kinds of tone combinations are demonstrations of life, but music expresses human life and there is the difference. Art comes from the human soul and speaks to human souls. Art fulfills spiritual demands through spiritual messages.

I believe we will agree that the East pinnacle looked in the fall of 1840 just the same or almost the same as it will look in the fall of 1940. But a landscape of the East pinnacle painted in 1940 will definitely differ from a landscape of the same view painted a hundred years ago. That tells us again that an artist's report (in this case a landscape) has a message, and this message is related to the artist's mentality and the mentality of his time.

From these two comparisons (a) between bird's song and music and (b) between two landscapes of the same view but of different periods, let us conclude that the first concern of art is not nature, but the human spirit. To art, nature is only a point of departure.

That means, in other words, [that] art is revelation instead of information, expression instead of description, creation instead of imitation or repetition. Good acting as an art goes behind the play and is more than interpretation and mimicry.

If there is a parallel between art and nature, namely in the fact that both nature and art demonstrate life, then the artist is not a competitor of nature but of the creator – as the creator's image; therefore his task is not to imitate the results of nature but the process of nature. That is to create life, namely, in form organisms. Form means here, again, color, shape, space, etc.

That indicates that not every painter, sculptor or actor is an artist, because many of them are only imitators of the results of nature, believing for instance that the more "natural" their work looks, the more artistic it is. Their mistake is in believing that in art the factual record comes before the human confession.

I have seen, and I hope you too have seen, good dresses and good chairs which tell us more about the human soul than many paintings do. There are also interiors, even though done by housewives, that are better arranged and have more meaning than others done by interior decorators. In my opinion, a good dressmaker, or milliner, is a better artist than a mediocre sculptor. And I believe there are more laymen with an artistic feeling than there are artistic artists.

In order to explain what artistic feeling or artistic seeing is, let me start with a negative statement. To see grass only as an edible vegetable, *that* every cow does. (Repeat.) But as soon as we see grass for instance as a carpet or as a fur, as an assemblage or as a forest (suppose we have our eyes deep enough in it); or when we see grass as a color or as many or changing colors with a certain psychic effect; or as a plastic or tactile appearance, or as a multiplicated movement: There enters the human being who naturally wants to be creative – there comes the flexible and productive mind that wants to do something with the world around it. Here comes the poet, the artist, the scientist or philosopher. I like to believe that every human being is inclined to develop as one or the other kind of these species of homo sapiens.

I hope that makes more clear that external recognition is not the purpose of art, but to enjoy and to respect form qualities which reveal our emotional participation in life.

As long as we hear single tones or only many tones, we don't hear music at all. Music is in-between the tones; we hear music if we feel the relationship of the tones. Or – as long as we hear only words in a poem, so long we don't get its poetry. The art of a poem is between, behind and above or, despite of, words. How the words or tones are chosen and how they are put together; how a color is used and related to others; how the figures are placed in a composition (no matter if it be on the stage or in a painting) is decisive in art.

Art is concerned with the HOW, not with the WHAT; not with literal content, but with its performance of the content. The performance – how it is done – that is the content of art. Art is concerned with quality and not with quantity.

Here I should take the opportunity to clear up a prejudice most disturbing today in any approach to or any appreciation of art. A misleading belief promoted mainly by some art dealers and also art concessionists, that a portrait has more value than a landscape, a madonna more than a still life, an oil painting more than a woodcut, a picture with a famous name superior to one by an unknown artist, that old paintings are of higher value than contemporary ones.

No and again NO. A folksong can be much greater art than an opera and very often is. A small drawing can be more valuable than a monumental mural, or an imitation of a Gothic cathedral. It is an error to believe that necessarily a hand-woven material has more artistic value than a machine-woven one.

Does it increase your appreciation of a rose if you know its name, origin, price or rareness? Marble is not always more beautiful than brick; that depends upon application and treatment, and never upon historical dates or anecdotes. The visionary strength, the genuineness of expression, the intensity of emotional effect, are what count.

In other words, what counts is how much the artist was engaged in his conception; how he treated his medium for his expression and how intensively he speaks to us. Again, in art, the HOW is decisive, not the WHAT.

With this statement we arrive at another differentiation, namely between art and science. But since our time is limited, and I should save some time for showing a few reproductions of works of art, I have to be very brief, even though this theme could give material enough for a whole philosophy.

Both science and art are spiritual approaches to life, but their tendencies are different and often opposite. As to the phenomena of life, art is primarily concerned with the existence of those phenomena, science with the reasons for their existence. Therefore art is apt to express, science to discover.

The method of science is mainly deduction, [that] of art mainly induction. Art is subjective and likes to demonstrate; science is more objective and likes to explain. Art intends to believe and prefers synthesis; science wants to know and must analyze.

These of course are very rough statements, and both art and science overlap each other. If I should express the difference only with punctuation signs, then I believe that after the word "life" art would put an exclamation mark and science a question mark.

Art has no purpose at all to do what I am trying to do here now, namely to develop a theory, but I think I need this theorizing as a preparation for experiencing or enjoying art. I say purposely experiencing and enjoying instead of understanding art, because art does not ask for an understanding in the usual intellectual sense.

Do we understand a rose when we admire it, or gold, or a precious stone? What about understanding charm? We can only admire charm. If somebody is a connoisseur of wine, that means he has taste, that is, a feeling for wine; that is the point. Contact with art is something like love. There may be sometimes reasons for love but real love doesn't need reasons.

The practical question now is how to develop a taste or feeling for art. If somebody says "I don't hear any music," that is no proof that there is no music. It may prove that he has no ear for music. The same with art. The consequence: he does not have to be pro or con.

Drinking wine for the first time is no reason to say, "That is good wine," no matter if you like it or not. To have a so-called understanding of wine needs instead of only drinking tasting many wines, because evaluation arises from comparison. The same with art.

In order to understand art we have to see it, and to see it again, [we] have to compare similar and different works of art and find the necessity for their existence in their form problems.

Therefore the best way to study art is to practice art. That gives us at least respect for real art (pictures!).

In order to make a resumé, the meaning of art is: Learn to *see* and to *feel* life; that is, cultivate imagination; because there are still marvels in the world; because life is a mystery and always will be. But be aware of it. Therefore art means: You have to believe to have faith, that is, cultivate vision.

Through works of art we are permanently reminded to be balanced, within ourselves and with others; to have respect for proportion, that is, to keep relationship. It teaches us to be disciplined and selective between quantity and quality. Art teaches the educational world [that] it is to be too poor to collect only knowledge; furthermore, that economy is not a matter of statistics, but of sufficient proportion between effort and effect.

To say it on a higher level: art is a credo in the last verse of the first chapter of Genesis where it says: "And God saw everything that he had made, and behold, it was very good."

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Unpublished lecture given at Black Mountain College, May 6, 1940. Typescript, Box 27, Folder 256, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. This paper presents blank spaces when referring to specific colleges, locations and number of students. It appears Albers prepared such typescript to be able to address different audiences. The text reproduced here is a later typescript from December 3, 1940, with handwritten corrections, Box 39, Folder 16, The Papers of Josef and Anni Albers.

In this paper Albers makes a distinction between what is art and what is not, and includes photography among the arts, probably for the first time. In this sense, it can be considered a precedent of "Photos as Photography and Photos as Art" (1943). For a full reproduction of this text, see p. 254.

## Address for the Black Mountain College Meeting at New York (1940)

It may seem frivolous now, when all ears and eyes, when all minds, are occupied with the frightening events abroad, to speak in such a situation about education. It may seem vain to draw your attention to a new and small college down in North Carolina in a moment when the face and the fate of the whole world may be turned upside down by unexpectedly strong forces with which we do not agree.

For years we have hesitated in this part of the world to realize the power and aims of those destructive forces, unfortunately have reacted to them mainly with laughter and ridicule. But the last weeks have awakened us and shown that those events abroad may have a destructive influence upon the Americas too, particularly upon the United States of America, which means upon the existence of each one of us.

If this does not happen through direct attack (invasion), it can happen through a grave change in our relationship to other parts of the world. And this in spite of surrounding oceans, in spite of abundance of space and raw material and gold, in spite of the highest living standard, all of which we like to think of as lasting guarantees of our security.

History may teach us that security is not an inherent quality of material possessions; only spiritual possessions are lasting and worth saving. The greatest and most important spiritual achievement of this country is its guarantee of freedom – no country in the world can compete with the United States of America in this respect. We have every reason to be proud of this freedom.

But to be only proud of freedom would be no proof of true understanding of freedom. Freedom, if understood as being free from something, has no positive sense at all. Only being free for something has active and productive meaning, is worthy of consideration. It is urgent now that we understand freedom, and work for its protector: democracy.

Freedom is never a present granted to us. Freedom is a personal quality. Everyone has to conquer it for himself and to reconquer it again and again. It presupposes conviction and integrity as well as respect for the beliefs and abilities of others. It demands protection, and fighting, and sacrifice for it if endangered, either by blind following of partisans, or through suppression and persecution of non-partisans, which is the fate of millions of people now all over the world.

Here we arrive at the most frightening point of the history of today, where self-made human gods impose their own demands upon misled and flattered people – at the expense of humanity. That is the deepest worry of all seeing people today: the abolition of humanity.

Thus to save humanity is the duty of everyone still enjoying the privileges of democracy. More than ever before we must be aware that democratic freedom depends upon recognizing obligations towards it, instead of having claims upon it.

If we compare the influence which the Romans, on the one side, and the Greeks, on the other, have still today, or the Spartans in contrast to the Athenians, then it will become obvious that only cultural achievements, spiritual contributions to mankind, can distinguish which principle of thought and government is the better one: regimented organization or competitive evolution, autocracy or democracy.

As I have stated already at the Black Mountain meeting in December at the Museum of Modern Art, it is certainly no accident that the two most contradictory ideologies, Communism and Nazism, the strongest enemies of democracy, have condemned modern art as well as modern education. This should explain clearly enough that those ideologies leave no aspect of cultural evolution, which by necessity is based on unhampered spiritual development. Condemned for the simple reason that a free individual growth must oppose mental leveling through ideological drill, through elimination or writing, reading and listening, through censorship of information and publication. Condemned, because a creative and critical mind cannot belong to masses, the indispensable pedestal of any kind of dictator; for masses assemble because of uncreativeness.

It should be a matter of course today that each of us has the obligation, not only to protect and defend our democratic freedom against aggression from inside and attack from outside, but to give our people an understanding of what democratic living means and is worth to them, and to build up a conviction that spiritual development under a democratic constitution is on a higher human level, and therefore higher cultural level, than those opposing ideologies, that we must remain on the higher level if human progress is to continue.

But how [can we] achieve this understanding and conviction? Through a democratic education in which qualities of character are considered just as much as intellectual abilities, in which the development of critical thought, of creative ability and social adjustment, are more respected than mere acquisition of knowledge and skill; where being cultured is more highly esteemed than being learned. That is, where the aim is humanity instead of efficiency.

If we understand humanity as a balance between dependence and independence – the two divergent directions in which education is engaged – that is, to create [a] reciprocal relationship between the individual and the group (family, community, state), then it is easy to understand that dictatorship is naturally inimical to personal independence, whereas democracy favors individual freedom and growth.

If I may state in this respect two typical American qualities, I must confess that in this country I have been impressed again and again with a very pronounced need for personal independence, very obvious already in small children; but just as much with an amazing

readiness for help and cooperation, aptly stated in the expression "Give him a chance."

I often wondered why these two very valuable human qualities of independence and cooperation are not applied more in American education. I believe the dominating educational methods in this country are not at all typically American with their stereotyped requirements, standardized curricula and mechanized evaluation of achievements. Why do we still have that belief in academic standards while our living reveals variety, youth, and freshness, and our planning flexibility and greatness? Why must exploration and inventiveness, two American virtues, too, play such a minor part in our schools? And why is creative development still a pedagogical stepchild?

If our teachers would think less by precedent and more about how to proceed from the human material entrusted to them, our education would soon become more American and more human. If education would aim more at being something instead of at getting something, then our schools would be, maybe, less intellectualistic, but less unjust to the unintellectual types; I mean, for instance, the visual type, the manual type, which are just as important as intellectuals. Our schools will then be more democratic because of giving a chance to many more people.

Then education will value character above skill, ability besides or despite knowledge. If we emphasize the imaginative mind to the administrative one, the productive to the possessive one, the creative one to the imitative one, if we believe more in responsibility than in success and profit, then we can prepare more for citizenship than for jobs, then we will develop personalities able to lead themselves instead of developing leaders longing for followers and masses.

Never before in our life, as today, have we been shown so clearly that education must emphasize human relationship just as much as, if not more than intellectual training. If we want to change from over-intellectualization to the exercising of the will, then we can learn (not in idea, but in method) from the enemies of democracy, that small educational groups have stronger influence on the individual than have large institutions. Then we have to improve from giving information to giving experience, from judging papers and examinations to judging persons, from impersonal lecturing to the living and working together of students and teachers. Because real education depends on personal contact and is a mutual give and take of experience and insight. Therefore educational factories are necessarily less influential than educational communities.

The larger the group, the more mechanical the measure and organization. The larger the registration and administration, the more complexity. Mechanical measure may be successful in mass production and in war technique, but won't work with human souls. Because mechanization lasts only as long as its machines last.

Just as medical direction and treatment in health and in illness is applied individually, so education is personal treatment, since it means direction and control of personal action and reaction. This again detracts from the reputation of mass teaching and points to educational communities. Unfortunately only a few of them practice democratic education. One of them is Black Mountain College.

Here I should explain some significant features of Black Mountain College and why it offers democratic education. I believe that my earlier and general remarks on education have indicated already the main tendencies of Black Mountain College. The aforementioned close living and working together of students and faculty are provided for by a large building for the whole community, except families with children. We assemble with the families at meals where we serve each other without any given order. Who is ready first, helps first. Everyone takes care of his own room. No one disappears over weekends. It is not necessary to disappear; it is interesting enough at the College because of concerts and dancing and singing, or plays and lectures, and parties of students and faculty.

We live in the midst of beautiful mountain woods, in a very healthful climate, and have enough opportunity for outdoor activities. In the earlier afternoon, which is reserved for outdoor work, we do wood chopping or take care of our roads. At Lake Eden, the new College property, we repair and paint houses; we work on apple trees and on the lake, or do landscaping with farming and gardening.

In our studies, in which we offer courses in most of the liberal arts, we emphasize the cultural fields and consider art, music, dramatics, literature as a central part of our curriculum. Since the participation in any course is voluntary, it seems significant that during the past years, for instance, fifty per cent of our students and fifty percent of the faculty, also of faculty wives, have participated in art courses at least for one semester. It is a good Black Mountain College custom that faculty members visit classes of their colleagues and become students again. The faculty wives share in all important activities; they help with teaching and guiding students as well as in administration work. We evaluate the social adjustment of the community members as much as their work. Doing and being something counts more than knowing and having something.

As to democratic living, I may add that Black Mountain College is co-educational. We select our students from as many different backgrounds as possible. The student fees are on a sliding scale, related to the financial situation of the parents, from the full fee of $ 1,200 down to $ 300. The enrollment started with fifteen students in 1933 and is at present seventy. And we never want to have more than 150. No one works his way through college; everyone is expected to do his share. Only a committee of three knows about the tuition a student pays.

Black Mountain College is governed entirely from within. So, without trustees, we are also without endowment, but also without directions from outside. Each teacher decides for himself what and how to teach. There is no president, but a rector, elected every year from the faculty, by the faculty, as representative of the community and conductor of the meetings. In the weekly faculty meetings,

attended by the four student officers, we decide on the policy of the College and other educational matters. The Board of Fellows, also elected by the faculty, from the faculty, includes the chief student officer, and decides on appointments and financial matters. For questions of general interest or importance, the rector calls the whole community for a general meeting. In the committees with special tasks, the students are also represented. Questions concerning discipline are handled mainly by the student officers or in student meetings. You see, the students have comprehensive opportunity to participate in the governing of the College and to exercise responsibility, and thus they conceive of the whole College as their own. We understand it as a sign of cooperation that we refrain from voting.

After this administrative report, it may be more interesting to hear some financial figures, which I've gotten from our financial minister, Mr. Dreier. This year we received about $ 45,000 in student fees; that is with seventy students, an average fee of some $ 600, which is half of the full fee. The actual cost of each student is about $ 1,000. We ran the College this year for about $ 60,000. It would have cost us more if we had paid the faculty more than sixty percent salary. And I might add that faculty salaries are based on minimum needs. We granted fee reductions of $ 41,000. Thus, the faculty salaries were only $ 15,000 – in addition to room and board. You see, the Black Mountain faculty has done its part for a democratic ideal.

Despite the fact that the financial situation of the College has been difficult, particularly last year, we consider this year to have been the best of all the past seven years. The number of student applicants has increased more than ever before, and we have more promising students. From some eighty applicants, we choose some twenty. More cooperation and more intensive studies, better guidance and teaching have resulted in better social adjustment and better class work and examinations. On the whole there was a sympathetic and inspiring spirit. Criticisms by and of teachers and students were meant and understood as help. The public interest in and the recognition of our aims and results have grown constantly.

We believe Black Mountain College is growing – not financially, but spiritually. It has grown from a so-called progressive, experimental college to a modern educational institution. It is considered by competent judges to be an example of the democratic education to come. We believe Black Mountain College can prove the validity of its aims and results.

All of this gives us the conviction that we have to do everything to secure the further development of our College. It also gives us the hope that our friends will contribute to support our work. So far we have often presented to our friends and to the public the ideas and status of Black Mountain College, and have left it to the listeners to think it over. *Now we feel it our duty to ask directly for help* – help, first of all, for student aid. This will improve, indirectly, faculty salaries and enable us to add needed faculty members. We ask for help, secondly, for making our property, Lake Eden, the permanent home of the College, since we can stay in our present location for only one more year. *This means that we need substantial help for improving the present buildings there and for the erection of additional, needed buildings*, or for the realization of the plans designed by our friends, Gropius and Breuer.

It is very unfortunate, as it is ironic, that the important foundations mainly support institutions which are already financially established. That makes it still more necessary for us to ask for help from individuals.

What we are asking for will not be merely for the support of a single college; it should be understood as a support of the general ideas of democratic education in which, I believe, every one of us should share.

It has been said that nations desiring peace have to be stronger than those desiring war. It is true that our desire is peace; but I am not sure that we are the stronger side yet, and we will never, I am sure, be stronger through rearmament alone. We have to think in longer-range terms. More than power is strength. More lasting than organization and mechanization is spirit, is conviction. Be aware and make others aware that democratic education is the most important means of saving democratic freedom, of saving spiritual or cultural development.

You have seen the nation-wide proclamation of yesterday: "Let Us Stop Hitler Now!" Yes, let us really help to stop him! But not only by momentary measures, but with lasting preparations, namely, by the readiness of the minds for the future.

America is the hope of the whole world believing in freedom. We must justify this hope in us of the world believing in freedom.

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Address for the Black Mountain College Meeting in New York, June 12, 1940. Albers noted on the typescript "three days before the evacuation of Paris."

Unpublished typescript, Box 27, Folder 256, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Unpublished typescript, Box 40, Folder 1, The Papers of Josef and Anni Albers.

This paper has to be understood as a continuation of the previous talk given in New York on December 9, 1938. A further two clear precedents to this text are a speech given at the beginning of the fifth academic year at Black Mountain College, on September 12, 1939, and an address given at the Museum of Modern Art on January 9, 1940, in which Albers explained the difference between modern education and progressive education. A carbon copy of the speech from September 12, 1939 can be found in the Walter Gropius Papers at Harvard University: Folder 353, Walter Gropius Papers (MS Ger 208), Houghton Library, Harvard University.

In the address given at the MoMA on January 9, 1940, there is a reference to Breuer's first letter to Albers relating his first impressions on his arrival to America. Albers explained that rather than a mere "leader," the United States could become an example of cultural development for the world. In order to underline his point, Albers made reference to Marcel Breuer's enthusiasm about the culture of America in the first American letter Breuer sent him on

October 7, 1937. “Aside from such hackneyed reminiscences, American ‘culture’ has surprised me most of all. You will perhaps disagree with me here, naturally I only know New York and New England, and have gotten my impressions primarily in New York or here in the country, the discovery of the rest of America is still in the offing for me.” Letter from Marcel Breuer to Josef Albers sent from the Graduate School of Design, Harvard University, Box, 2, Folder 4, The Papers of Josef and Anni Albers.

## The Origin of Art (ca. 1940)

The origin of art:
Discrepancy between physical fact and psychic effect

The content of art:
Visual formulation of our reaction to life

The measure of art:
Ratio of effort to effect

The aim of art:
Revelation and evocation of vision

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Albers dated this statement to ca. 1940. It subsequently appeared in numerous catalogues and articles on him and his work.

Albers explained that he came to his first statement, “the Origin of Art,” when he realized that in “science what seems to be true today may not be true tomorrow, since science deals with physical facts, while art deals with psychic effects.” Oral history interview with Josef Albers, 1968 June 22–July 5, Archives of American Art, Smithsonian Institution, http://www.aaa.si.edu/collections/interviews/oral-history-interview-josef-albers-11847 (accessed January 11, 2014).

On Albers’ sixty-fifth birthday the text was published with a preceding statement that reads: “I am a Westphalian – from the Ruhr / and now 65 / Though I have destroyed / more of my work / than saved / it has been shown / during the last 15 years / in more than 500 exhibitions / here and abroad.” “The Origin of Art” was then introduced as “a few invitations for consideration.” Published in *New Mexico Quarterly* (winter 1953): 420.

Albers adopted the last line, “Revelation and evocation of vision,” as the mission of the Josef Albers Foundation, formed in 1971.

## [One Fights for…] (1941)

One fights for –
what one doesn’t have –
oneself

fights those –
who are –
like us

let’s love in peace
that which belongs –
to all

and peacefully enjoy
our being –
unlike each other

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Original title, “Man kämpft für—.” Handwritten text, Box 80, Folder 24, The Papers of Josef and Anni Albers. Published in *Yale Literary Magazine* (1958).

## Photos as Photography and Photos as Art (1943)

I suppose some of you have seen the advertisement of commercial photo dealers saying, "You push the button and we do the rest." This promotes a taking of pictures with the least care possible. Such a way of looking at photography, I believe, is of the lowest level possible and should not be our way of approaching and understanding photography.

Photography is first a handicraft. It can also be art. It can produce works of art as any handicraft does, if the product represents a significant expression of the mentality of a period or an individual. Because such demonstrations reveal and evoke emotional participation, or, in other words, give us an esthetic experience, presupposed that we are sensitive enough for it.

Most handicrafts are old trades, thus they have had the time to explore the possibilities of their materials and tools. They have discovered already the best applications possible as well as the boundaries of their field. They have developed already tradition – with its positive and negative moments – and thus gained cultural significance.

Photography is still a child among the crafts, though already one hundred years old. It has all the advantages and disadvantages of childhood. It is still unafraid of spontaneity and directness which are [its] characteristics.

Though many handicrafts are practiced also as hobbies, the older trades are mostly in the custody of professionals. Photography remains to a larger extent in the hands of amateurs. This is probably one reason why photography is not yet recognized as a full-fledged handicraft and less as a branch of art.

Looking briefly at the later development of handicraft we will notice a most important change during the last century in which photography was born. I mean here the industrial evolution (improperly often called industrial revolution). Industry has replaced hand tools with machines, craftsmen with workmen, individual production with mass production. The result is a doom for the crafts, though industry, so far, has done little to replace the best qualities of the supplanted crafts.

Through industry many crafts have vanished, others have shrunk to repair enterprises, the remaining craftsmen have often become businessmen.

It has little sense to be sentimental about such necessary or accidental changes, nor is it worthwhile to be proud of a few remaining romantic hand-weavers who spin their yarns by hand, or some stannary makers who still make dishes from pewter.

Photography, though very young, and suffering, together with industry, from children's diseases, continues to have better prospects than most of the older crafts. The danger of industrialization is taken away from it by the mass production of the press, and a degeneration toward a repair shop is outside of its nature. Though young, photography has already developed a large number of specialized branches and gained the attention of all who can read as well as of those unable to decipher letters.

As an international and inter-linguistic means of communication it has conquered the attention of all.

I am neither competent nor ambitious enough to cover here fully the optical and chemical principles involved. I have no intention to explain any of the special or latest developments.

All I can try to do is to show some explanatory photos, bad and good ones, in order to prepare an understanding of some characteristic pictorial qualities of photography. Maybe this will help me to remove a prejudice against photography as a means of artistic expression and thus a hesitation to admit photography as a member of the pictorial arts.

There is a saying "a photo, or a lens, never lies," and a policeman for instance has good reasons to believe it. It is clear that both the lens as well as the silver compound – which are the two most essential devices of photography – have no intention to sin by cheating us.

But if that saying means that a photo shows the things as they are, as they look to us, then the saying that "a photo never lies" is a lie.

It is true [that] a camera placed and directed like our eye will notice much more and much quicker than our eyes and we can do. I say purposely "our eyes and we" because our looking at something is not only a physical but also a psychological process. All manufactured lens[es] can only project.

Any picture taken with the camera differs in many ways from a picture of the same object (in the same light, of the same distance) perceived with our eyes.

To recognize such differences, I believe, is the first condition to take photos properly and also to read photos properly.

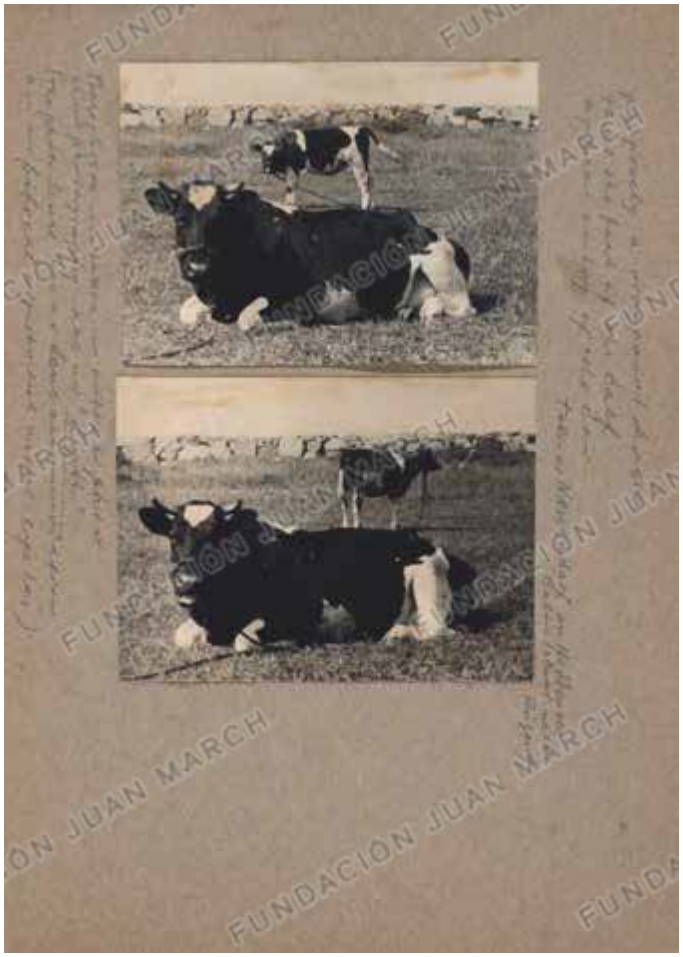
It seems logical to study first the differences caused by different optics and later the changes caused by the chemical process involved.

The most significant difference between the human eye and the camera is that the lens of the eye is flexible and the lens of the camera inflexible. The lens of our eye is capable to accommodate. It can adjust itself by contraction and extension and can point, or focus, at objects of various distances, it can "touch," so to speak, the various points from here to there and over there, without changing its place.

The lens or the combination of lens[es] of a camera objective remains rigid. It behaves as our eye does when we doze.

If you want to imitate a photo lens I suggest that you look upward but don't focus at the curtain or the ceiling, just look at nothing, so that the eyes feel relaxed. That is the way a manufactured lens "looks" and remains always.

In order to adjust such [a] lens to different distances we must move it forward or backward.



Josef Albers, Untitled (demonstration of lack of depth in photography using cow and calf), n.d. Gelatin silver prints mounted on cardboard with inscriptions by the artist, 10 ¼ x 7 1⁄16 in (26 x 18 cm). The Josef and Anni Albers Foundation (1976.7.853)

Another difference is that we see with two eyes and the camera with only one. In adjusting the lens of our eyes the motor sense participates in the process of seeing, we "feel" distance and are able to locate any object on its place.

Thus, when looking only with one eye, we achieve a similar result as the camera lens, namely, a two-dimensional projection. On the other hand, as soon as we photograph with two camera lens[es] placed like our eyes, we can produce stereoscopic pictures which appear three-dimensional (Kocher's apparatus).

The seeing with our eyes is a still more complex affair. I try here to explain it only as far as we need it for the understanding of photography, but I should like to mention that since our seeing is also, and to a larger extent, a psychological process, our knowledge and our emotions influence our seeing. Individual interests direct our attention and therefore our focusing differently. A swimmer looks at water in another way than a fisherman or a painter.

As I said already, our motor sense influences our seeing. We know that simultaneous acoustical sensations have influence on our visual sensations. Therefore, I don't believe it true any longer that the sensations of various senses are unconnected as we have been taught.

A flat picture cannot be spatial as we perceive the world around us. All paintings, drawings, prints, as projections, are flat, two-dimensional, as all photos are. But most ways of pictorial projection have devices to produce an illusion of three-dimensionality which photography cannot apply or only to a smaller extent. Therefore, photos represent the flattest type of picture.

[A slide of a sheep is shown.]

If we could see this scene in reality we would not be able to read sheep and fencepost as belonging to each other. In accommodating our eye lens, first to the foreground, our motor feeling will prevent us from overlooking the space between those living voluminous organisms on the ground and the lifeless linear organisms reaching into the sky.

But the author of this picture proves that he, as photographer, knows the "seeing" of the camera.

In order to obtain such an example of "photographic seeing" I made these photos twelve years ago:

[Slides of a cow and calf are shown. See figure on left.]

I show you these photos first to make you aware, first, of the two-dimensionality of a photo and its emphasized flatness. This flatness becomes still more obvious, if not disturbing, in most printed pictures because all prints represent photos of photos.

Now I should like to show you how and why every photo produces distortions which never happen in the images of our eyes.

The projection screen which receives the image produced by the lens of our eyes is half the inner surface of a globe, therefore curved; every point of this screen has relatively the same distance from the center of the lens and there is no recognizable frame ending the picture. In a camera the projection screen is a flat rectangle with a definite boundary. In this screen the center is the point nearest to the lens.

All points towards the frame are farther away and the corners have the largest distance.

In comparing the image on the retina of the eye with the image in the camera screen, that is, the ground glass or the film, we can easily understand that a photo produces an enlarging towards the frame. This is a distortion similar to that of the Mercator projection of the map of the world in our atlas. The camera lenses are constructed to correct this distortion, particularly the distortion in curves, but I believe some distortion remains. Fortunately and unfortunately, we very seldom realize this enlarging toward the frame, but every photographer has experienced the surprise that the center of a photograph appears reciprocally smaller than he expected.[1]

Such distortions appear also in purely constructed perspectives as architects draw them. Unfortunately, few architects are taught to correct such perspectives through a reduction of the outer parts of the picture.

So far, we have considered only the projection of the images. We have seen how different flexible and inflexible lens[es] work, that the images on spheric[al] and flat screens are different. If we now consider light, which is the acting medium in photography, then we will see another and more significant characteristic of photographic pictures.

Any light going through a transparent or translucent medium is losing energy. Any projection through lens, eye lens and camera lens, produces images which are darker than the object projected.

But this reduction of light intensity is small compared with the loss of light caused by the chemical changes in the silver compound which the photographer must apply in order to transfer momentary images into lasting pictures.

The result is that the light-dark proportions of a photo are, first, on a deeper light scale or, so to speak, in a lower light key. Secondly, the number of gradations between black and white recognizable with our eye is reduced to a shorter scale. Thus, photos – to our eye – emphasize the darks and thus indirectly the lights, whereas the middle grays merge, or disappear, into the darks.

All techniques necessary in photography including innumerable tricks cover a relatively small range of physical and chemical processes.

This gives easily the impression that making photographs is mainly a mechanical affair. Remember: You push the button and we do the rest.

Photography seems to work so simply and particularly so quickly that some people believe it cannot be of great value. Well, is a doctor when he just with one cut achieves what he wants to achieve, or, are Chinese drawings which are done obviously in a few minutes not good because they are done in such a short time?

Here as there, the discovery or selection and the way of using the means count. Also here the ability to select is the result of vision or of long preparatory study.

Furthermore, photographs, being on the one hand an immediate and often instantaneous record of the external world, and, having on the other hand no way to show a personal handwriting at the surface of the picture, seem to be impersonal.

It is true, the photographer does not betray his personality as much by craftsmanship as by the intensity of his vision. The absence of the facture and draftsmanship as marks of the individual hand seem to be a loss. But it is a gain as it enables us to grasp the vision of the photographer in the most direct and immediate way.

Photographs reveal the individuality of the photographer if we as spectators are able to read it. Just as the unmusical ear is not competent to judge music, so it is likewise with pictures, whether they are paintings, drawings, or photos. Only a sensitive and trained eye gives us the right to judge, as it gives us a deeper reading and enjoyment.

It belongs, I believe, to education to get beyond the point of mere likes and dislikes.

1. The next typewritten paragraph was crossed out by Albers. It reads: "This change in proportion – enlargement towards the edge and consequently reduction in the center – is a frequent result in beginners' photos. You all have seen, for instance, those pictures of grandma in which the figure occupies only five percent of the area available, whereas, ninety-five percent of the picture is environment." — Ed.

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Unpublished English slide-illustrated lecture given at Black Mountain College, February 24, 1943. Typescript features the handwritten annotation: "Projection of photo slides with explanation of their characteristics, their pictorial purposes and how they were achieved."

First published in German as "Photos als Photographie und Photos als Kunst" in *Josef Albers Photographien, 1928–1955*, ed. Marianne Stockebrand (Cologne: Kölnischer Kunstverein; Munich: Schirmer/Mosel, 1992), 35–37.

Typescript, Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescript, Box 84, Folder 11 (1), The Papers of Josef and Anni Albers.

In this text Albers admits photography as "a member of the pictorial arts."

## We Construct and Construct (1943)

In 1928, the magazine *Bauhaus*, after a change in directorship and faculty at the Bauhaus, in Dessau, published its largest issue, vol. III, no. 1 and 2 [sic].

In it, we, the remaining faculty members wrote on [the] principles and aims of our teaching. Paul Klee wrote on "Exakte Versuche im Bereich der Kunst" (Exact Experiments in the Realm of Art).

His article began with the statement:

"We construct and construct
But intuition still is a good thing."

We younger teachers – then – read this as addressed to us. For long I have tried to find an answer to this statement.

Finally, after years, on the other side of the Atlantic, I came to a parallel formulation:

"We construct and construct
Because intuition is still a good thing."

I feel certain, if Klee could read this he would smile his calm and measured smile.

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Unpublish text written in English and German, "We Construct and Construct" / "Konstruieren und Konstruieren," in relation to a statement by Paul Klee in the magazine *Bauhaus Zeitschrift für Gestaltung* 2 (Dessau), no. 2/3, originally published in 1928.

Handwritten, typescript and typescript carbons, Box 81, Folder 29, The Papers of Josef and Anni Albers.

English typescript, Box 22, Folder 193, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

This is the issue of the magazine in which the Bauhaus masters explained the principles and aims of their teaching. Josef Albers wrote "Werklicher Formunterricht" (Teaching Form through Practice, pp. 3–7); Wassily Kandinsky, "Kunstpädagogik" (Art Education, pp. 8 to 10; and Paul Klee, "Exakte versuche im bereich der kunst" (Exact Experiments in the Realm of Art, p. 17). Albers specifically recalls the opening sentence of Paul Klee's text and explains how, fifteen years later, he reached a parallel formulation on the other side of the Atlantic. This text by Klee was published as "Paul Klee Speaks" in *Bauhaus 1919–1928,* ed. Herbert Bayer, Walter Gropius and Ise Frank Gropius (New York: Museum of Modern Art, 1938), 172. The translation of the sentence to which Albers refers in the English translation from 1938 is not exactly the same. It reads: "We construct and construct and yet intuition still has its uses."

## The Educational Value of Manual Work and Handicraft in Relation to Architecture (1944)

In an industrial age, when machines dominate production, it seems significant that building, considered as a key industry, depends to a large extent on work by hand. To architects and engineers alike, the prefabricated house, though promoted for decades, remains a problem. Its solution will be related to psychological conditions as well as to technical and economic conditions.

We may consider the dependence on manual work either as unfortunate and antiquated, or as unavoidable and even fortunate; it will remain a necessity as long as individual needs in housing are recognized. It will continue until building has achieved such final development as has been reached, for example, by the bicycle. As long as we continue to experiment with new materials and new techniques, good craftsmen will be as indispensable as good designers. The more we integrate design with craftsmanship, however, the more we shall save manual effort.

Here we shall confine ourselves to the educational value of manual work and craftsmanship, particularly in architecture.

To see the value of handicraft, which persists despite increasing machine-craft, is to recognize its continuing influence. To this end, let us first compare some hand processes and machine processes of similar functions. Machine weaving has been developed from hand weaving. It follows the same principle of construction. Sewing by machine, however, is based on an entirely different technical principle from sewing by hand.

It is logical, therefore, to learn weaving, as well as textile design, first as hand weaving; for the handloom is simpler and easier to understand. It permits a greater range of variety than the more complicated power loom. Even in sewing the manual process is the best preparation for a proper use of the machine process. Hand sewing develops more directly a feeling for different materials and different effects.

As to the quality of the products or results, we know that machine woven materials can compete with hand woven textiles, and poor materials are produced not by power looms alone. We know, too, that there are weaving techniques which are possible, thus far, only in hand weaving. It should be known also that the sewing of clothing cannot be done entirely by machine. At least some hand finishing is almost always necessary.

Both of these examples indicate the two possible technical relationships between hand process and machine process. They also show that machine production cannot be entirely substituted for handwork. More important is the fact that, historically and educationally, production by hand normally precedes machine production.

It has been observed, both here and abroad, that beginning students in design like nothing better than to select as their first problem the most complex task, namely, another new chair. We also know of design classes where plastics, as a new material, are considered to be on a higher level. There are schools where bending wood is taught without any previous experience with wood. Such a procedure is justified as a trial-and-error way of learning at the beginning when the encouragement of freedom is needed. It will mean more, however, if student and teacher do not overlook, particularly after unsatisfactory results, the more basic and perennial constructions. With practical experience and honest judgment, not being intoxicated by momentary fashions or slogans, we will agree that, technically and educationally, the old time-tested joints in wood, metal, and stone still hold good.

Now we find ourselves surrounded with innumerable new materials, techniques and methods, all waiting to be mastered. Here we seem to be at the crossing of two roads, one old and one new. The old one is narrower and leads to "famous places" and security. The new and broader offers both speed and adventure in unknown lands. As modern architects, we must travel both roads.

Our long dependence upon European ideas must now give way to broader conceptions. We must consider other people and other countries significant, and offering us spiritual and material resources as great as those of Europe. There are as many new tasks as there are new materials.

Modern architecture has recognized the obligation of applying modern material and modern technique, but there still remains a question as to how much it is to the advantage of new structures or to the reputation of new materials.

More than being proud of, or enthusiastic about, new possibilities, is the achievement of better building for better living and working. Of this double task, the aims seem to be clearer than the procedure. Unfortunately new designs have often discredited good ideas. Many new constructions merely demonstrate that new planning or new materials are not, *per se*, better than traditional ones. Many so-called modern buildings and furniture have fed the belief that the old, or the antique, or the hand-made is better and more beautiful than the new, modern, and machine-made. Further, they have spoiled the willingness of the public to try new proposals.

Future architecture, considering utility as well as appearance, will be the more accepted the more its results prove at least as satisfactory as former architectural achievements. To produce something better will be more convincing than to do something merely different. No talk about functionalism will convert people to leaking roofs, and no insulation coefficient will reconcile them to houses too hot and too cold. No economy, for long, can sell poor taste.

Such statements are made not merely to criticize. They aim at better results. Experience teaches us that the less we know about the final effect of new materials and techniques, the more careful we must be in using them. Before assigning failures to material, we should reexamine the planning and execution – or review the education of designers and architects.

In our efforts to promote higher quality and sounder construction, we must commit ourselves anew to better design, to better craftsmanship. To the problem of how to reach such a goal historians and traditionalists continue to offer their remedy – to follow the past. Besides admiring former achievements, however, we must remember that they were neither repetitions nor imitations. Important architecture, exterior or interior, past or present, represents self-confidence. It is discovery and invention. It proves awareness of new tasks and the will and the ability to solve them. It looks forward rather than backward. To continue tradition is to create, not to revive.

Students of architecture and design must be trained to study material, old and new, as to capacity and appearance. They must learn, with material, to produce, as well as to understand, space for shelter. Basic studies in construction (related to capacity of materials), as well as studies in combination (concerning appearance), should precede any specialized industrial or architectural design. They should be accompanied by manual work, preferably with simple implements. They should be followed by a thorough, practical experience in handicraft. Fundamental studies in General Design, preceding the study of handicraft, avoid a mechanical taking over of settled methods. They provide critical and creative selection, [and] thus encourage inventiveness.

Unfortunately, the so-called crafts in schools rarely are any preparation for the present and future architectural and industrial tasks. The method of trying first many materials and tools is good for a general orientation. But continuing unlimited exploration in later grades, in colleges or art schools, namely, trying "some" pottery and jewelry, "some" metalwork and weaving, wastes time and energy. It spoils respect and taste. One thing done well, one construction understood and applied properly, is educationally far better than many things started or poorly understood and executed.

*Laissez-faire* learning and premature specialization have led in the latter direction. Both are superficial and inefficient, lacking either aim or foundation. Their results reassure us that the three R's must come before playwriting or banking, as well as before physics and philosophy.

This is often forgotten today, particularly in the learning and the teaching of craft and art. Thus self-expression and mass production appear as the immediate concern. More and more we feel the drawbacks of such trends. Dilettantism, justified and desirable at the beginning, unfortunately continues until it becomes the end. The more we succeed in eliminating the current "arty-crafty" trends in schools and the "modern-istic" and "functional-istic" miscarriages in construction and production, the more we can hope for practical and sound professional education.

Present war needs and those of future reconstruction demand from schools more than scholarship and research. They require

practical experience as well as academic standards. Many schools already follow the example of those modern institutions that consider manual work as an essential part of the curriculum; many others will follow. Through obligatory manual work in schools, we shall not only recognize the manual and the visual types of student, but also shall learn that they are just as valuable as the intellectual type. Thus, general education will become not only more just and democratic, but will also break down the European tradition of over-intellectualization. It will demonstrate that practical thinking is as necessary as abstract thinking and good workers as valuable as good administrators. Skillful hands, observing eyes, and taste will count again more than a good memory.

More manual work in all schools and more handicraft for all designers and constructors will give a new impulse to modern planning and construction. It will develop judgment and connect intellectual and manual work as well as workers, and thus improve cultural and social conditions. Even if a student, in manual work, should learn only to do nailing well, it will be worthwhile. He will realize that it develops coordination within himself and with others, and that skill depends on observation and thought. If an architect, in handicraft, learns only to apply the main constructions of cabinet making properly, it will improve all his designing.

As to premature specialization: normally, craft and art teachers are not experts on new plastics. The use of these materials, as inadequate panels for oil paintings, for example, does not prove competence. Moreover, no school workshop can afford much of the equipment which the industry of almost innumerable plastics is continually developing. This, and the fact that sawing, turning, and casting of more common and less expensive materials prepare for plastics, as well as for other materials, show that design in plastics cannot be a first task of schools. This case will also explain that the manipulation of the materials most often applied, wood, metal, and stone, provides the most fundamental study in handicraft.

In order to avoid misunderstanding, it should be made clear that the so-called old materials are emphasized here in discussing handicraft. Serious studies in handicraft will not interfere with the encouragement to try and to study contemporary materials and construction equally. As mentioned above, the interest in new possibilities and inventiveness should be developed in General Design, which precedes the study in handicraft. Handicraft, then, should lead to craftsmanship, as craftsmanship is a requisite for proper application of new materials and new construction. It may seem old-fashioned, in these times, to lay so much stress on manual work and handicraft, particularly in connection with new architecture. It can be expected that some people will consider such emphasis as unprogressive.

Progress depends on recognition of failures as well as of achievements. Mistakes demand correction and change as long as we seek improvement. Change and correction are often uncomfortable; but, as long as criticism means help, we should accept it.

Repeated failures and mistakes force us to look for reasons of basic character. Our previous observations, based on experience in design and building, as well as in teaching, show that a loss of craftsmanship is one of the main reasons for our shortcomings. We concluded that experiments must be guided by experience, and that this calls for a change in educational method. In order to regain lost ground, to gain more practical thinking, general and professional education must turn to more practical work. If these conclusions are correct, we can expect that other fields of study and work will disclose equal needs. There are already many signs of such a change.

One thing seems sure, the more new architecture gains the quality of old handicraft, the more it will fulfill its task, the more it will contribute and lead to better living.

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Originally written for the architecture and town planning symposium organized by Paul Zucker and published in *New Architecture and City Planning*, ed. Paul Zucker (New York: Philosophical Library, 1944), 688–94. Reprinted, Freeport: Books for Libraries Press, 1971.

The symposium presented realistic suggestions for the future of architecture and city planning by the foremost experts in the United States. Each contributor approached a specific problem on the basis of his professional experience, anchoring his vision of future possibilities on factual research that recognized the major needs of the times. One of these leading architects was Louis Kahn, who wrote the article entitled "Monumentality" (pp. 77–88) dealing with a widely discussed issue at the time, contemporary to the polemical "Nine Points on Monumentality" (1943) by Josep Lluís Sert, Fernand Léger and Sigfried Giedion. Josef Albers and Louis Kahn would later coincide at Yale in 1951, and their work would be mutually enriched from that time on.

Typescript, Box 22, Folder 197, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescript carbons with handwritten corrections and notes, Box 79, Folder 38 (2), The Papers of Josef and Anni Albers. Written text by Albers: "This is a concept before the last corrections... I hope it is readable."

## White (ca. 1944)

White is the sum of light,
the combination of all colors.
That makes it rich and strong.
Although considered "colorless"
it is a color of distinction.

Among all tones, nuances,
white best reflects both light and color.
Because it is considerate,
therefore most influential.

In the abstract it is regarded clean
and even cool;
It has no smell, it has no taste.
We think of white as something simple,
untouched, immaculate
and understand it as a symbol
of innocence.

Yet in reality we almost never
see real white;
because it always mirrors its surroundings.
Indoors, we see it only shaded;
outdoors it traces sky and earth
and mixes so with blue and other colors.

Pure white without reflections
– as separated in an apparatus –
appears unpleasant, bare.

White paint is used much more
than any other pigment,
it is the one most necessary,
it is a paint most helpful.

Most colors need the aid of white,
as base, in mixture, or for contrast,
to brighten or to tint them.
Therefore, the painter's largest tube
is white.

The painter knows that white connects
all kinds of hues and values;
he knows how difficult it is
to work without much white.

White is a measure for plasticity and distance,
it points at volume, space,
it graduates the shadows.
Watch white emerging from the tube
and see it has more amplitude
than all the many paints.

White is dynamic – it represents activity;
it can be static also – means then composure.
Therefore, it is most versatile.

Describing white, we need superlatives,
this proves it is essential.
Remembering the most exciting landscape,
we think of earth and mountains,
of trees and houses covered high with white.

I like to see and have much white;
to use it often and more often.
It is the color of relationship, and substance.

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Unpublished typescript, Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Handwritten and typescript with handwritten corrections, Box 81, Folder 37, The Papers of Josef and Anni Albers.

## Talk at a General Meeting with Summer Institute Faculty and Students (1945)

The aim of our college is a democratic educational community.

Democratic I understand not only in its political and parliamentarian sense but just as much in its educational sense.

So far – in my opinion – democratic education has been developed very little in the prevailing educational systems.

Therefore, general education, normally, takes care of the development of the intellect. I dare to say that from all human faculties the memory is considered first and trained preferably in general education. The best memory gets the best records and grades. In school – yes; but also in life?

Usually, in general education the visual, and acoustical and manual type of student is of secondary, if any interest.

Usually, the artist, the musician, the practical, technical or, so to speak "building type" altogether – I mean the visionary and/or constructing mind – are neglected or of secondary rate. They do not have the opportunity to develop (according to their constitution) as the intellectual type has.

We must recognize that – in an industrial age – such education is not only antiquated but also unfair, as well as undemocratic.

And, with open eyes, we must realize that we suffocate in over-intellectualization and that our creative capacity is handicapped by overstuffed memories.

The prevailing education – unaware of the needs of our time – prefers analysis to synthesis, explanation to action (or interpretation to production), thinking in verbal terms to thinking in situations and forms; it prefers retrospection to investigation, application to invention. It evaluates knowing something usually higher than the ability to do something.

I know that teachers don't like to be told this and they do not agree.

But I believe I have a simple sociological proof for my statement:

The administrator, distributor, curator today is usually placed on a higher social and economic level than the producer and creator.

It seems worthwhile to find out why.

I believe that our "academic" education is the main reason.

I do not say that Black Mountain College has achieved already such democratic education in which varying abilities can develop and which parallels the democratic organization of Black Mountain College, in which every community member has his share, but I hope, and have reason to believe, that we are on the way to such democratic education.

Unpublished talk at a General Meeting with the Summer Institute Faculty and Students, July 4, 1945, on democratic education.

Typescript, Box 27, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## On Education (1945)

I should like to begin with a statement I made before at a well known educational institution: "To distribute material goods is to divide them. To distribute spiritual goods is to multiply them." This statement is made to raise the question, which of the two functions, namely to divide and to multiply, is the more profitable one.

The 19th century has tried to convince us that matter governs and conditions spirit, if there is any. And there are still agitators and promoters who want us to continue with this belief.

But our own century, with its leading tendencies (in art, in religion, and in philosophy) and particularly with its latest and most frightening scientific achievement, is at least inviting us to consider again spirit, spirit above matter.

Life is growth and development, and development means change.

Our heritage of the 19th century, namely to see only economic causes for changes in human society or history, is getting antiquated. It proves unsatisfactory if not boring.

We have discovered again that emotions, for instance, love and hate, are more decisive for human action than material gains and losses.

So we must face a change from a period of economic reasoning to a time of psychological reasoning. And that certainly will have bearing on education.

Now, after a second world war, we must hope for another change. A change from a belief in external power to a belief in inner strength, or from material power to spiritual strength. That means in practice that leading ourselves stands before and above leading others – or, that education is first self-education.

One common way to leadership, or the usual way of gaining influence is organization of others in a movement. But we wonder now whether this is the best way.

Any movement calls for a counter movement. The result is group stands against group, mass against mass, more and more against more and more. A new imperialism against an old one. So we wonder how far we are from the next war, probably the last of all wars, ending

Josef Albers with students, Black Mountain College, early 1940s. Courtesy North Carolina State Archives

with the final destruction of civilization and culture if not of the human race.

So after the liquidation of one kind of dictatorship let us watch out for another one. After the liquidation of one totalitarianism let us not fall for another one. And we won't as long as we believe that the development of mankind depends on the development of the individual. (Here I am not speaking for individualization but individualism, which is personal freedom. By freedom I mean not being free from something but for something – and individual can be explained through its opposite "dividual.")

Those who need an organization of followers for power's sake are not leaders. Their influence runs as long only as their organization runs. But those who are able to lead themselves to the highest individual development – see the great teachers from Socrates to Einstein – they have lasting influence, independent of organization.

I think it was the Maya Indians who understood that he was the leader who did not want to lead. And it is Chinese as well as Plato's philosophy to consider him the leader who has culture.

We must realize that external power, in a vicious circle, depends on and aims at creation and production, then we will understand why the example given in behavior and work is the strongest means of influence, and therefore of education. Let us think again of Socrates and other great teachers, then we will see why the example, which is indirect personal influence, is stronger and more lasting than both organization and command. (And let us include here also the anonymous great, the true mother, the servant, the true worker, the soldier.)

If organized power is related to possessiveness, and personal strength demonstrated by creativeness, then it seems worthwhile to distinguish here possessive teaching and learning from creative, productive education.

Possessive students I call those who are satisfied with filling the memory with information. The worst are those feeding their pride with grades. Whitehead says: "A merely well-informed man is the most useless bore on God's earth."

The possessive teacher considers his knowledge the focal point of his work. He considers giving information as his main task and is inclined to have his students study the same things and in the same way as he had to learn when he was a student.

To creative, productive education, the individual is the educational material. Here the aim is alike for both student and teacher, namely to discover and to develop ability as well as to discover and develop human relationship.

Because to educate is to adjust the individual as a whole to community and society as a whole. If this definition is comprehensive then sound education is neither measured nor accomplished by academic standards.

We consider it evident that intellectual studies alone do not provide personal development for everybody. The prevailing

education, designed originally for a small group of highly selected intellectuals, is unrelated to the mental and physical constitution of the masses of students we have today.*

If we want democratic or just education, that is fair opportunity for all, then we must consider the manual, visual, acoustical type of student as much as the intellectual type. Also, for too long we have overlooked that there is thinking in situations and forms as well as in logical conclusions and verbal terms.

Uncreative teaching with an over-emphasis on retrospective studies is responsible, I believe, for the sociologically significant fact that the administrator and distributor now appear on a higher social and economic level than the producer and creator.

The necessary counter-balance against unrealistic and undemocratic "over-intellectualization" is practical work. As long as education is not to be divorced from life, participation in fields of production and construction, particularly in craft and art, should be obligatory in all educational institutions.

Educational teaching is less a problem of method than of cooperative relationship. This gives us one measure for teaching and learning: Usually it is not the able teacher who needs to complain about poor students. As it is not the serious student who blames the teacher for his failures. And it is only simple pedagogy that we have no right to demand from others what we are not able or willing to do ourselves.

I believe that only continuous revision of our ideas will keep us alive. I have tried only to think over a few basic questions which I consider decisive for our task here.

If we can avoid confusion between means and ends then it doesn't matter whether others consider us radical or modern or even reactionary. Then we can bear it that first our friends and now our enemies call us progressive. Nor is it of importance how we ourselves call Black Mountain College, an educational community or a liberal arts college – and "General Education" the newly proclaimed successor of "Liberal Arts Education" is not new to us; we have called it our task from the beginning, twelve years ago.

I repeat the definition I gave before: To educate is to adjust the individual as a whole to community and society as a whole. And I believe this can be accepted by the radical as well as by the conservative.

If we can realize or embody such understanding of education then we may arrive at a democratic education where different opinions and different developments are accepted and expected. Where mutual responsibility will result in productive living and working together; where everybody leads himself before leading others; where we aim at behavior and culture as well as at knowledge.

Sam Brown, our latest graduate, said once something like this: "Most of us here are just ordinary people. But our College more than any other place I know gives us the opportunity to be extraordinary." I should like to extend this remark as an invitation to everybody here. If everybody here does his best for his own development, then we can expect that the whole College will be extraordinary.

* As the talk published here was designed for a college community with agreements on certain educational problems, the following five paragraphs were not included. These paragraphs are added here as they appeared desirable for making this talk more of general interest for a printed article. Note introduced by Josef Albers.

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Unpublished talk given at the first Community Meeting of Black Mountain College, October 6, 1945.

Typescript, Box 27, Folder 253, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescripts and carbons with handwritten notes, Box 40, Folder 3, The Papers of Josef and Anni Albers.

Notes on pencil by Josef Albers: "General meeting with additional notes. Rewritten for John Burchard of MIT who wanted it for publication, but did not succeed."

There is a much longer and later paper, entitled 'On General Education and Art Education,' of a talk given at Art Museum Denver in July 1946. Pencil writings by Josef Albers: "This text was to be published in a work for the three public talks. It was not printed as Mr. Kepes delayed and delayed and never submitted his manuscript."

## Art at Black Mountain College (1946)

At Black Mountain College, art is considered as educational as language, mathematics, philosophy. It is accepted here also that practical, manual work is as essential in education as it is in life. To us, education means more than a teaching which merely extends memory and trains mainly intellect. We realize that human development depends on other human faculties equally or more important than those two mentioned.

Academism has coined the stereotype "theory and practice," but life works in an opposite order. It points first at practice of which theory is a result. Here we may conclude also that application alone is more appropriate to industry and trade than to education.

Creativeness and productivity imply more action and, therefore, more life than mere possession. Therefore, to us, the fulfillment of ability is a higher aim than knowledge. Knowing and understanding do not necessarily result in action, creation, production. Consequently, to realistic education – which is to adjust the individual as a whole to community and society as a whole – the development of the will is the first and last concern. In short, doing something – even if it may prove a failure – counts educationally more than merely knowing something.

As to learning and studying, life confronts us with problems and tasks which cannot be solved by intellectual procedure alone. There are activities and situations we cannot encounter through verbal and oral information and which, therefore, actually cannot be taught.

The ultimate approach is experiment which leads us to the most decisive factor in education – experience. Experience is not the shortest and often not the easiest way of learning, but the broader and most far-reaching way. What we have experienced belongs to us; it will remain with us longer than what we have only read or heard.

All these considerations lead us to the conclusion that in schools, art should be studied as science is being studied, namely, through laboratory work. It appears as a matter of course that we study chemistry through experience, through handling chemicals. In order to make clear what is not as natural, apply the usual way of teaching art to the teaching of science; then in many schools there would be mainly and probably only history of chemistry.

Art does not exist on a material but on a spiritual level. It rests within us instead of upon a canvas or marble. Seeing art is more than an optical projection, it is a psychological process. Optically different people see alike, emotionally and intellectually they react differently, individually. Someone has said, "We don't judge art, art judges us."

Art as a creative process is discovery and invention. We consider it a creative rather than productive process, as creation leads to spiritual effect, and production to practical result.

Discovery and invention depend on imagination and vision both of which we probably are unable to teach. What we can teach toward their development is observation and comparison. These both aim at open eyes and flexible minds, both desirable not only for art.

At Black Mountain College, art studies are first a means of general education, second, a foundation for later specialized and individual art work. Basic courses in drawing, painting, design, and color offer studies aiming at disciplined seeing and sensitive reading of form. They exercise syntax and synopsis of visual articulation. So in each course the learning of the principles of the craft of the field is the first objective.

In drawing, we practice graphic formulation; in painting, special relationship of two-dimensional color, composition. In the color course we experience the relativity of color, how color is influenced by color, light, shape, quantity, placement. Basic Design is practicing planning. Here through the use of various materials (voluminous, flat, linear) we study appearance on the one hand and capacity on the other. Through exercises in combination we experience and understand surface qualities of material – of *matière* (structure, facture, texture). Through construction exercises we study mathematical and structural conditions of form (shape, space, volume).

Besides these basic disciplines, the College offers workshop courses in textile design, woodwork and bookbinding. Architecture and printing are temporarily discontinued. The community work program – and soon the building program again – provides a large variety of practical work experience. Concentrated studies in various fields of design are offered at Black Mountain College Summer Art Institute during July-August. Besides the art faculty of the College, guest artists and scholars of reputation will give courses and lectures.

As indicated before, the aim of our art studies is not self-expression but articulation in visual form. Since expression is purposeful, aiming through selected means at definite effects, it is the result of self-control and mastery of medium and tools. Therefore, to consider children's and beginners' work as self-expression is a misunderstanding if not a fundamental psychological error. It is misleading and leads either to strangled creativeness or conceit. Of course, man-made form reveals always qualities of its originator, but we should not confuse self-disclosure with self-expression.

Expression implies communication. In art, it is visualization of our emotional reactions to life and the world, and depends, as in any language, on articulation. Articulation is distinctive formulation as it implies decision about purpose and also selection of appropriate means. Therefore in art, as in all communication, precision – as to the effect wanted – and discipline – as to the means used – are decisive. Both can be achieved through experience, through continuous and repeated experimentation.

To study only finished works of art – unfortunately possible mainly through printed reproductions – deprives us of the educationally

most important experience of trial and error. It ends too often in factual description and sentimental likes and dislikes instead of in sensitive discrimination.

The danger of studio courses, namely to produce would-be artists, can be eliminated by teaching which is concerned with the process of seeing and formulating instead of producing final results. In schools we can only prepare for later artistic work. Work of significance and lasting value usually is a result of many years if not of a lifetime of concentrated study – in art, in science, or in any field.

The more basic our studies are, the less we will be in a hurry for finished results. The more our practical exercises concern fundamental problems, the more we will avoid mechanical application of technique as well as imitative discipleship. The more we develop understanding of and respect for material, the more we can expect that both production and evaluation of form, of art, will be approached with honesty and responsibility.

Such practicing studies mean in the end a study of ourselves, of our handicaps as well as our assets, which is the concern of any serious creative mind.

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Unpublished text written between December 1945 and January 1946 for the journal *Junior Bazaar*. Instead an editorial article was published in the May 1946 issue. Typescript of the original text, Box 27, Folder 253, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Typescript carbons with handwritten notes, Box 39, Folder 14, The Papers of Josef and Anni Albers.

## Abstract–Presentational (1946)

ABSTRACT _____ PRESENTATIONAL

Single adjectives are able to locate art historically. But they rarely encompass an art which is still in development.

The adjective ABSTRACT is historically the first term applied to the art under consideration here. It is still the most widely used name and probably, so far, the best. It is understandable and understood. But the noun *abstraction* unfortunately over-emphasizes departure from *nature* and therefore does not adequately emphasize departure solely from vision or emotion.

Thus, already early in the development of this art the term CONCRETE has been promoted to replace *abstract. Concrete* emphasizes a concern with or an aiming at reality. Its disadvantage is its association with *things*, that is, with the external world. And recently, particularly in Europe, *concrete* is in use to denote purely "constructivist" painting and sculpture.

Likewise, the name DIRECT painting is opposed to indirect expression, that is, to detours leading through factual content, stories, or illustration.

PURE painting has a similar meaning. But both *direct* and *pure* are too exclusive. As terms they appear ambitious if not arrogant.

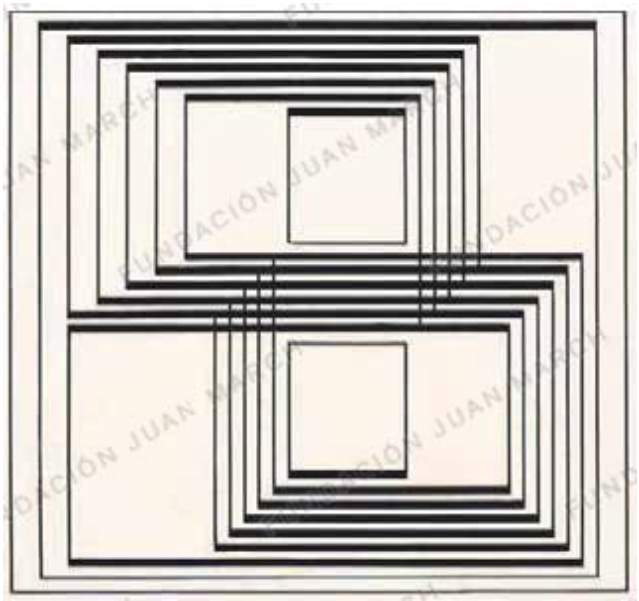
A justifiable analogy with music has led to the term ABSOLUTE art. Just as *absolute music* stands against *program music*, so in art *absolute* implies independence of *description*. It emphasizes remaining within the means of the medium as well as a restriction to combination and construction. Unfortunately *absolute*, when opposed to *relative*, also indicates *final*. But the *final* does not exist in art.

All these names are incomplete, but they have a common denominator, namely, that this art is self-acting, has self-existence and is free from description.

Adjectives beginning with non- are negative. They function as indirect qualifications. Instead of stating qualities or aims positively, they try to explain through a negation. Negative adjectives should be seen as invalid or as improper for something as positive as art.

The most improper of all negative adjectives for art is NON-OBJECTIVE. It appears first as an inadequate translation of the German *gegenstandslos*, meaning, strictly translated, *without things* or *objectless*. But *non-objective* implies more strongly *no object*, as well as *subjective*. Both implications are not only misleading but wrong. They do not require discussion here.

NON-FIGURATIVE is at least more self-explanatory. But there are abstract figures as well as figures abstracted. *Figure* can be applied to any form or forms dominating a composition. Gestalt psychology has accepted this usage of *figure*.



Josef Albers, *Seclusion*, 1942.
Zinc plate lithograph, image: 12 x 12 ½ in
(30,5 x 31,7 cm)
Foundation

The term NON-REPRESENTATIONAL appears at first quite embracing, but it is complicated and impractical, too long a word. Its original meaning and usual significance is *non-imitative*.

Linguistically, the prefix *re* signifies *back* and *backward, again* and *against, over* and *opposite*. On the other hand, *non* as a prefix means *not*, denoting negation. Both prefixes together, combined in a word, cancel each other.

Thus we can conclude: What *non-representational* says indirectly PRESENTATIONAL expresses positively. Also the noun *presentation* in its varying connotations – from *an act of presenting* or *producing* or *displaying* to *introduction* and *performance* – justifies the neglect of the double prefix *non - re*. Even the definition of *presentationalism* or *presentationism* (believing in an immediate perception of all cognitive realities) is in accord with this new term for abstract art. In the same way, we may also accept PRESENTATIVE, meaning directly apprehending or apprehended by the mind, as a signifying term.

ABSTRACT _____ PRESENTATIONAL _____ PRESENTATIVE

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First published in *American Abstract Artists* (New York: Ram Press, 1946), 63–64. Typescript, Box 27, Folder 262, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library; Box 79, Folder 3, The Papers of Josef and Anni Albers. Reprints, Box 22, Folder 197, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. This text, both in its original typescript and published form, shows relevant formal differences in type editing. All effort has been made to keep the typographical differences of the original text in this publication.

The American Abstract Artists group was formed in New York in 1936. Albers' paintings were shown in the group's first exhibition, Squibb Galleries, New York, April 1937. The group produced a yearbook from 1938 on. See Ruth Melamed Gurin (intro.), *American Abstract Artists, 1936–1966* (New York: Ram Press, 1966).

## Present and/or Past (1946)

The question whether art deserves a place in education remains only with those who have lost contact with the spiritual situation of today.

It is unnecessary to repeat here what has been said often about the educational values of art. We might mention only that art, as a visual formulation of our reaction to life, embraces all facets of life. It integrates all fields of learning; it discloses abilities not employed in other fields; it disciplines eye and hand besides the mind. Art is needed

everywhere, in private and public life, from the home to the city hall, from religion to business.

Teaching and learning which aim mainly at information should not be called education. To educate is to adjust the individual as a whole to community and society as a whole. More valuable than to be educated is to be cultured. Art is not only a measure of culture but also an educational means toward culture.

A decade ago few educational institutions considered art a field of learning. Today, art courses are offered in most schools but still meet cautious reserve.

The question, now frequently discussed, whether art studies in general education should be historical or practical, or which of them should be considered first, will not be solved by defensive or aggressive declarations on either side, nor by administrative preference and prescription. It will be solved simply according to needs.

The quite usual, or better, common offering of courses in "theory and practice of..." is an invention of uncreative academism. The reverse "practice and theory" is obviously a more organic order.

Fact and creation are naturally ahead of historical registration and interpretation. Literature exists before and despite surveys on it, just as philosophy, for instance, is creation not retrospective report on it. Open minds see that retrospective information does not produce philosophy or philosophers.

It indicates psychological incompetence to demand that students interested in writing comedy study first the comedies of the past, or theories on play writing. Esthetics are the result, not the cause of, or condition for, creation. And we have learned that objective evaluation of art has become questionable, since taste and appreciation are changing continually.

The fact that, for example, philologists, who know about language and writing, are not *per se* the best speakers and writers, shows that knowledge alone does not necessarily result in action or production.

Research is different from search. Retrospective studies connected with practice provide a valuable gauge. Such studies unconnected with practical experience promote easily, unintentional or not, retrogression. Reproduction is not production. It has been said copying one book is plagiarism, but that copying many books is called research. Much that is called scholarship appears on a similar level. If we clearly differentiate reproduction from original, seller from producer, then we will recognize that research and scholarship have arrived at inflationary values.

Such statements may appear distorted. They emphasize that production is prior to distribution and possession; that creation comes first and appreciation and evaluation later.

With the question whether creator or appreciator should decide on art education, whether production or evaluation should lead art instruction, we should not overlook that in other fields normally the practitioner is leading.

Education, unfortunately, has forgotten the aims of the great teachers of the past, namely to develop "head and heart and hand." The more education turned intellectual, the more the theorist took the place of the practitioner.

The 19th century, a time of retrospection, of revival, and the organization of museums, handed over the care of art and its evaluation to the historian. Since then education and publication have been mainly concerned with art of the past. Little time and space is left for the stepchild – contemporary, modern art.

But slowly the artist is regaining his place as judge, writer and teacher, on his own action as well as by request. In education, science appears ahead of art as it makes the laboratory the natural place of study.

Both architecture and typography have developed contemporary, modern art since they consider modern in its time, daring and new, demonstrating a constant change in seeing and feeling. If revival had been a perpetual virtue, we still would live in caves and earth pits. In art, tradition is to create, not to revive.

We need not worry about the continuation of creative production. Because to express our reaction to life and world is a constitutional need of men, not after but beside the need for shelter, food, etc.

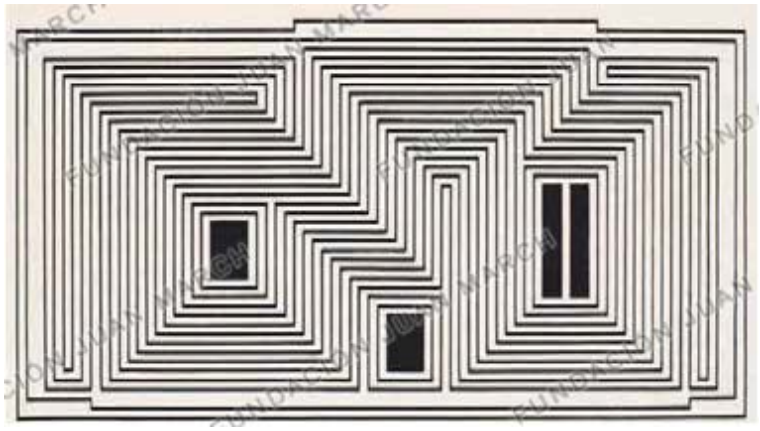
Art, therefore, can be considered as an end instead of a means. So, *l'art pour l'art* can be justified. To restrict art to a means of propaganda, for instance, proves only a psychological, and so a fundamental error.

What we should worry about is the common attitude toward modern art, architecture, furniture. See how proud we are of the latest achievements in hygiene and traveling facilities. We buy without hesitation the newest plumbing and lighting fixtures and electrical appliances; we are waiting for the new television, radio. But we are skeptical of tubular and other modern furniture which has been developed on equal premises. Yet French cast iron chairs, though impossible for any use, are accepted because they are old.

We are eager to learn about and to wear the latest fashion in dress but are afraid of modern architecture, modern painting. There is still "forbidden art," not by decree but by common neglect. Such pros and cons show an interesting discrepancy between our reactions to technical progress on the one side and cultural progress on the other; acceptance there, hesitation here.

Much has been written on a cleavage between artist and public. Many reasons for it are discussed: individualization and lack of common ideology, materialism and industrialism, intellectualism and mechanization in education.

Whether these reasons are valid or not, in art there is also a parallel to industry where economic factors prevent utilization of important innovations. In business there is another barrier for new form. There the middleman, the "buyer," decides about the real buyer's, the customer's, needs and taste. In publicity, most official judges avoid taking a stand on modern art. It seems easier to present the old, as it is more profitable to sell the old. So, most art publications promote first



Josef Albers, *Sanctuary*, 1942.
Zinc plate lithograph, image: 8 5/8 x 15 3/4 in
(22 x 40 cm). The Josef and
Anni Albers Foundation

or preferably the past. It is not insignificant that art magazines appear in a typographical form unrelated to any modern design.

All these facts probably can be traced back to a "tradition" which has lost its traditional meaning. Tradition has changed from a moving force to an inactive attitude; from a role of facilitation to one of inhibition.

Former periods have shown productive understanding of tradition when they found their own formulations. Cathedrals which began Romanesque were continued Gothic and finished Baroque. Comparing e.g. the Greek and Romans, Gothic and Renaissance, we can conclude: the less reminiscence the more creative impulse. This remains true today despite Colonial and Georgian replicas, Gothic school buildings and classical museums. Why don't we speak also the language of our ancestors and dress ourselves in their fashion?

It is no tradition to believe that old is generally better than new; or what is similar, handmade better than machine-made. Not Vasari has made tradition but those about whom he reported, Giotto and Masaccio, for instance, who were aware of the new tasks and found their solutions, gave new revelations. Many Winkelmanns and Ruskins cannot teach us as much as one Cézanne, one Picasso.

Tradition for tradition's sake is stagnation, as education not aiming at action is retrogression. We have heard again recently from the other side of the Pacific that making history is more than knowing history.

The past has led us to the present. Whether the past will be a help to us or a hindrance depends on how we respect the present.

> More and more, the artist is recognized as competent to represent his own field. Today, he is permitted, even urged, to write and to speak on art and art theory, on his own work and himself. Once more he is considered the natural and able judge and interpreter of art. He may tend to subjective evaluations, but any objective estimate has become questionable, since we realize a continual change of taste and appreciation.
>
> All these changes are significant for our cultural development. They reveal an awareness of cultural needs and obligations. They demonstrate also that the producer of art deserves our concern as much as his product. And, he who influences artistic development will inevitably influence art education and, through this, general education.

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First published in *Design* 47 (Columbus, Ohio), no. 8 (April 1946): 16–17, 27. Special Black Mountain College issue. Reprints, Box 22, Folder 199, The Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library; Box 80, Folder 47, The Papers of Josef and Anni Albers.

Photos and schematic designs
of two chairs, n.d.

2 photographs, graphite and ink on
paper, 9 5⁄8 x 13 in (24.4 x 33 cm).
The Josef and Anni Albers Foundation.
Photo: Tim Nighswander/Imaging4Art

## My Armchair of 1926 (ca. 1949)

My armchair of 1926 is, to my knowledge and that of others, the first modern chair in laminated bent wood.

As its wood structure uses only two pairs of two wood forms the chair consists essentially of only four wood pieces.

The larger of the two wood forms is trinominal. It combines in one piece a horizontal armrest in the middle with a vertical front leg and a hind leg, slightly slanting. This forms two rounded-off angles of 90° and about 110°, respectively.

The second and smaller wood member is an equally rounded-off angle of again ca. 110°. Its one side is support for the seat and the other side is a flexible support for the back of the chair.

All four wood members are of equal thickness and width, and are sliced from large laminated and bent wooden sheets.

These sheets are made of thin veneers glued together in a plywood technique. However, they are not flat but bent around 2 sheet-metal forms which serve as matrix and provide the proper angles as well as their right placement.

This new principle of chair construction has been followed by others in innumerable similar chair productions up to now, but particularly during the 1930s and 1940s. But I have seen not one that repeats the flexible back of the chair, which, of course, any printed reproduction does not make clearly recognizable.

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Unpublished English typescript, Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

III.
YALE
UNIVERSITY
1950–1960

## [...Thank You, Pius] (ca. 1950)

In the spring of 1920 I left the painting class of Franz von Stuck at the Academy of Munich for the Bauhaus in Weimar, founded about half a year before. I had no idea then with whom I would study there; I did not know that later Kandinsky and Klee would be my teachers, nor that they were former students of Stuck.

All I knew then of the Bauhaus was from its first one-sheet leaflet, which showed on one side Gropius' new program for studying art in connection with handcraft, and on the other, Feininger's woodcut *Cathedral*. It gave me the push to try something anew.

After destroying most of my academy studies I began again in Weimar, with the beginning of the *Vorkurs* (the introductory course obligatory for all new students). Being 32, I was the oldest among the students there, who came from many countries and ways of life. We had classes only on Saturday mornings with Johannes Itten, who in the evening also gave "Analysis of the Old Masters." All the week we worked on our own, and more or less for the one teacher and the one class. Often we met for dancing, singing and discussions.

After my first semester, the *Vorkurs* and the term exhibition, I was accepted for the study of handcraft in one of the workshops. My desire was to enter the glass workshop. But, I was advised by the conference of the Bauhaus masters first to study wall painting.

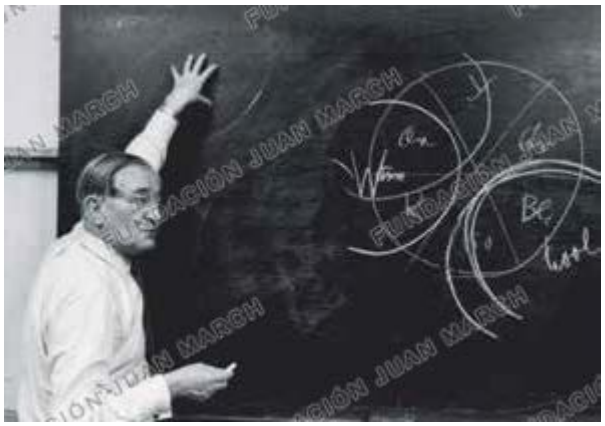
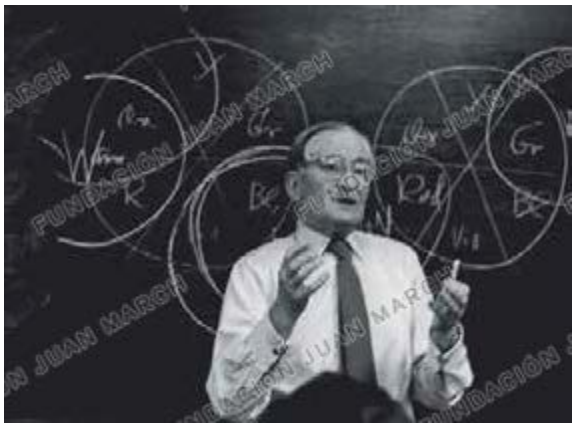
As I did not agree that for me wall painting was the necessary preparation for glass painting, I worked independently of a workshop. With rucksack and hammer, I went to the garbage dumps where all kinds of bottles provided the glass I needed for my studies of glass painting.

During my second semester, Gropius, warmly concerned, warned me dutifully and repeatedly that I could not remain at the Bauhaus if I would not comply with the advice of the masters, namely, to study first wall painting. In the meantime, the glass workshop had been dismantled since its members had left for Italy and its space was needed for other, more urgent, work.

At the obligatory exhibition at the semester's end, I hung several of my glass painting studies. They were combinations of bottle shards mounted, because of the lack of proper tools and better materials, in the most unprofessional way on old tin, screen, and lattice. I thought this would be my swan song at the Bauhaus...

Then, I got a letter from the conference of the masters informing me first that I was accepted for further studies and then asking me to organize – a new glass workshop. So, suddenly, I found myself in my own glass workshop and soon I had orders for colored glass windows.

In the fall of 1923 towards the end of the first public Bauhaus exhibition *Kunst und Industrie eine neue Einheit* (Art and Industry and a New Unity), before the new semester opened, Gropius at a student meeting developed a new schedule for the *Vorkurs* semester. In this plan was a workshop course to introduce the new student to the

Albers teaching at Yale University, 1955–1956. Photo: John Cohen

principles of craft, which in Gropius' plan – I was to teach, though I had heard nothing about it before.

I had taught before in public schools the 4 R's and religion, art and gymnastics, etc., but never craft. And being only an amateur, I knew little about craft and more from observation than from practice. Besides, I had left teaching in order to become a painter and hoped never to return to education. My hesitation to start teaching again, and in a field in which I felt little competence, Gropius overcame with insistent but, again, warmly concerned persuasion.

In return for the surprise Gropius gave me with his appointment to teach craft, I surprised him, after the first semester, by changing the subject of my course from "Principles of Craft" to "Principles of Design."

Since then I have been teaching. I remained at the Bauhaus for thirteen years, until it closed in 1933. Then the newly founded Black Mountain College in North Carolina called my wife and me as the first Bauhaus teachers in the United States. And there I have been teaching again for sixteen years. At Harvard it happened that I gave courses again next door to Gropius (!).

I often wonder what my fate would have been in Europe, without Gropius' persuasion to do teaching again. *Thank you, Pius.*

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Unpublished typescript, Box 22, Folder 193, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

In this thank you note Albers explains his entire trajectory in relation to Walter Gropius, from his arrival at the Bauhaus to his emigration to America.

There is an unpublished fragment from a talk about Josef Albers by Walter Gropius that expresses Gropius' admiration of Albers' teaching method. "I must say that I got a real kick for my own work out of watching Mr. Albers' teaching method. Of course I knew his work already very well when we were collaborating in the Bauhaus many years ago, but it has since acquired such depth and scope that I only wish I could send every student who wants to take up design or technical engineering to his courses. He has discarded the old procedure to hand over to students a readymade formulated system. He gives them instead objective tools which enable them to dig into the very stuff of life, to develop independence and constructive resourcefulness. They are brought face to face with themselves instead of being..." [Fragment from a talk about Josef Albers]. TS. with A.MS. revisions; [n.p., 1945?] "Series: I. Compositions by Walter Gropius," Folder 81, Walter Gropius Papers (MS Ger 208), Houghton Library, Harvard University.

## On Co-ordination (ca. 1950)

In my drawing class I demonstrate and explain the problem – of the class as well as of the individual – as often as possible on the blackboard.

Often I have visitors in my class – teachers, artists, parents. One, a student's mother, after she had been in my drawing class, asked me if I had received training in co-ordination. I did not understand her question and asked for an explanation. She told me that her boys, when growing up, had poor posture, carried themselves badly, and moved awkwardly and she sent them to a teacher for training in co-ordination.

This made me more curious and I wondered if she meant that I needed training too. No, the mother said, she noticed, when I drew on the blackboard, that with the movements of my drawing hand my whole body participated, including my legs and feet. Therefore, she thought I showed co-ordination.

This learning about co-ordination from a mother of my student (in fact, of three of my students) gave me a new hint for my teaching of drawing. I have told my class often about this experience with that

mother, particularly when I see students with a pencil in one hand and their chin or a cheek in the other.

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Unpublished typescript, Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescript carbons with handwritten corrections, ca. 1950, 1953, Box 79, Folder 27, The Papers of Josef and Anni Albers.

## [On Design and Management] (1951)

Yesterday I liked hearing Mr. Marcus speak of a "background of quality." As I understood it, it was meant in a topographical sense, that is, in direction of the presentation of goods.

I should like to borrow his term "background of quality" for another aspect, namely that of the customer himself (and I am sure we agree that selling is not the end of the job as it is not its beginning).

And I think at a conference like this, comprehensive consideration should be given to the development of a spiritual "background of quality" – on the consumer's side just as well as on the producer's side. Therefore special attention should be given to the development of an attitude toward quality, that is, development of judgment, or if you prefer, taste.

Though the topic of this session is "Training of Artist-Architects for Industry" I shall speak in more general educational terms derived from a way of teaching and learning of designing.

Before showing a few slides illustrating briefly this way of study I should like to make a few general statements:

Every visual thing has form and every form has meaning.

Because form is a result of behavior – behavior results in form.

Now, since gentlemen prefer blonds, everyone not preferring blonds is no gentleman.

This is to indicate that there is not necessarily *one* measuring of forms or only one reading of forms.

Our perceptions result in associations depending on varying experience.

Therefore our reading of forms (I purposely say reading instead of understanding or interpreting), our reading of forms depends in a negative way on our prejudices, in a positive way on our preferences.

Any communication, visual as well as auditory, is received individually – and colored individually. Just as words, so have forms (this means besides shapes also volume, space, color, and any visual order or organization), just as words, so have forms varying connotations.

In design, as in art, both of which are visual formulation – visual communication, I differentiate factual facts (existing outside of our mind) from actual facts (inside of our mind). I have chosen this very un-English verbalization in order to give a new emphasis to the term "psychological effect" which is our main concern.

Though art, and so design, present a constant objective, namely to reveal visually human mentality, the fact that they are both conceived individually and received individually brings about an ever-changing performance and an ever-changing appreciation – changing not only from period to period but also from person to person.

As a consequence there is no objective measure in design and art. This does not exclude the fact that there are different levels of judgment of greater or lesser competence which depend on both vision and experience.

As a further consequence I have come to believe that design – art cannot be taught directly. All we can teach and should teach is seeing and formulating, or, observation and articulation.

That these objectives provide a job for more than a lifetime has been stated often by the masters.

Therefore all that a few years in school can lead to is a productive attitude conscious of the fact that any formulation though effective as a revelation at the beginning, may become – a commonplace – after a time.

All significant formulations of the past were new in their time and so – modern. They present inventions and discoveries which are the only criteria for creativeness.

Though esthetes regret it, it was right in a creative sense that – as *one* example – the Cathedral of Wurzburg which began Romanesque was continued logically Gothic, then in Renaissance, and finished Rococo. Tradition in art is to create not to revive.

But how can we develop creativeness when retrospectionists condemn freedom of experimentation as a breaking of tradition? They should know by now that losing tradition is possible only through mental illness.

How can we develop imagination, which is proved by invention and discovery when the schedule of study confronts the student merely with a set of given problems to be solved by a given set of solutions? To place theory before practice, knowledge before experience, or research before search will end in mechanical application of rules and tricks. Such schooling may develop laborers or imitative disciples but not imaginative and productive minds.

Or what can we expect, when the leitmotif from beginning to end of our art training is so-called self-expression, or the emphasis given to individual development or personal style.

Style is an inevitable by-product of developed personality, not of stylization.

As we are individuals anyway, there is no need for special individualization. And true self-expression presupposes acquisition of at least some command of articulation.

To state my objective in a positive way:

Our way of learning is doing.

Our point of departure, the material.

Our concern, our self.

Our goal, imagination.

Following slides showing studies in only two materials; first a sculpture in wire in varying views, second spatial illusion studies in mesh fabrics – with explanations.

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Unpublished paper delivered at the "Training of Artists-Architects for Industry" session of a Conference on Design and Management, Aspen, Colorado, August 1951. Typescript, Box 84, Folder 8, The Papers of Josef and Anni Albers.

## [To Me (So Far)] (ca. 1952)

To me (so far)
art is to present
not to represent
though I know
art representational
and presentational

Art is to present
vision first,
not expression first
Vision in art is to reveal
our insight – inner sight,
our seeing
the world and life

Expression, style
and/or contemporaneousness
is an unavoidable by-product
of personality;
not a result of stylization,
not of forced individualism
but of virtue:
honestly and modesty

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Unpublished text originally written in both English and German, "To Me (So Far) / Fuer Mich (soweit)."

Typescripts and typescript carbons, Box 81, Folder 17 (2), The Papers of Josef and Anni Albers.

English and German typescripts, Box 22, Folder 193, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## Seeing Art (ca. 1952)

Art is not
art is looking

to be looked at
at us

What is art
is not necessarily
nor
and vice versa

to others
art to me
for the same reason

What was
or was not
might have lost
or gained it
and maybe

art to me
some time ago
that value
in the meantime
again

Thus art is not
but
To be able
we need to be

an object
experience
to perceive it
receptive

Therefore art is
where art

there
seizes us

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First published in *Josef Albers on his Seventieth Birthday* [exh. cat. (English version) Kunstverein Freiburg, March 16–April 13, 1958] (Freiburg: Kunstverein, 1958), 11, accompanying Will Grohmann's text, "A Tribute to Josef Albers on his Seventieth Birthday," originally published in the German newspaper *The Frankfurter Allgemeine Zeitung*, March 19, 1958. For a full reproduction of Grohmann's text, see p. 329.

Also published in the *Yale University Art Gallery Bulletin* 24 (October 1958): 26–27, and republished in *Yale Literary Magazine* 129 (May 1960): 54.

Typescript in English and German "Kunst-Sehen," Box 14, Folder 123, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Typescripts, typescript carbons with handwritten corrections and photocopies, Box 81, Folder 7, The Papers of Josef and Anni Albers.

## My Courses at the Hochschule für Gestaltung at Ulm (1954)

*A report on courses in Basic Drawing, Design and Color, given at the Hochschule für Gestaltung at Ulm, November 24, 1953–January 23, 1954. Albers was at Black Mountain College from 1933 to 1949.*

### 1. Introduction

From the correspondence which I had before coming to Ulm with both the United States Government and the Geschwister-Scholl-Stiftung, Hochschule für Gestaltung, the establishment of which was made possible by a donation of one million DM out of the McCloy Fund, I concluded that my main task would be to advise the Hochschule für Gestaltung as to curriculum organization and teaching methods and to demonstrate teaching in the following specialized fields which are considered here as basic training: basic drawing, basic color, and basic design. The courses were given every weekday morning from 8.15 to 11.30, except Saturdays. Besides these class hours of practical exercises I frequently went to see the students in the afternoons when they did their homework and also visited the workshops of the department of industrial design. Several times I visited the building grounds on the "Kuhberg," until bad weather prevented the continuation of construction.

Shortly after my arrival in Ulm and repeatedly during my stay here I had conferences with members of the Board of Directors, Rechtsanwalt Helmut Becker, Kreebronn, Dr. Roderich Graf Thun, Jettingen, and Oberbürgermeister Pfizer of Ulm, and with future teachers on the program of the school.

Before going into the details of my experience I should like to explain the principles of my teaching method, in particular why my methods differ from the traditional methods in teaching art.

### 2. Principles underlying my courses at the Hochschule

The longer I teach the more I learn that art cannot be taught, at least not directly. Art – as I see it – is visual formulation of our reaction to the world, the universe, to life. If such definition is acceptable, the two basic aspects we have to deal with in teaching arts and in which we can offer help are seeing and formulating, or vision and articulation. That the development of these faculties provides tasks for more than a lifetime has been repeatedly stated by the masters. Since vision and articulation are the parents of art, self-expression in art, which is to reveal purposely something through visual formulation, is

Josef Albers in Ulm, 1955.
Photo: Margit Staber

possible only at an advanced level, that is, after vision is developed and articulation is acquired, at least to some extent.

Consequently, self-expression is not the beginning of art studies. I am aware that many art teachers are not sympathetic to such conclusions. I come to my conclusions through the following premises.

As there is no verbal communication before we can produce sounds and words, as there is no writing before having letters or type, for the same reason there is no visual communication as long as there is no visual articulation.

Nobody considers the inarticulate sounds of a child a language, and nobody accepts his scribblings as writing. But curiously enough many are inclined to accept such scribblings as self-expression and so – as art. But finally art teachers are beginning to discover that self-expression is something other than self-disclosure.

Following my conclusions, I do not believe in self-expression as the first or the principal objective of art studies. We will understand this better in applying the German educational terms *Beschäftigungstrieb* (the urge to be occupied) and *Gestaltungstrieb* (the urge to formulate, to build).

Compare also the usual art teaching with teaching in other fields, imagine the four "R's" taught without direction, without systematic training; or language, history, and music studies consisting only of self-expression without systematic and continuous exercises.

It is a psychological error to believe that art stems from feeling only. Art comes from the conscious as well as from the subconscious – from both heart and mind. If art is order, it is intellectual order as well as initiative or instinctive order. Unfortunately there are people, teachers and students, afraid of the training of the conscious in art, afraid of the understandable in art. For those I should like to say that clear thinking will not and cannot interfere with genuine feeling; but it does interfere with prejudices, so often misinterpreted as feelings – and that's all to the good. As in any other field of human endeavor, so it is worthwhile also in art to see and think clearly in teaching art, particularly basic design. I have tried to organize a method which provides a preparation for all visual art, a practical study of principles underlying and connecting all arts.

Before going into detail it might be interesting to see first how architecture for instance – and in a similar way also typography – have regained a significant and leading cultural position, more, probably, than any other branch of art today.

Since the Beaux Arts system is abandoned, since retrospective analysis and copying of ancient achievements are no longer the beginning nor the dominating concern of architectural apprentices, since present needs and new as well as old possibilities of construction are the point of departure and the main content of study, a contemporary new architecture is growing again – performed in our own articulation, demonstrating our own mentality.

## 3. The courses

**A. *Basic Design*** has a similar direction, as just pointed out. Our start is not retrospection, nor the ambition to illustrate, to embellish, or to express something. We try to learn, i.e. to see, that every visible thing has form and that every form has meaning – and we learn this by producing form. Therefore our workshops are rather laboratories than ateliers, studies, or lecture rooms.

We simply begin with material and try to shape it. We observe how it looks and what we can do with it. We do not think of making useful things right away. We do as music students do, namely we learn to get acquainted with the instruments, that is, to get means and hands under control before we care about theory and history. We do exercises before making compositions, we rehearse before performing.

In order to open the way for discovery and invention, which are the criteria of creativeness, I prefer materials little known or normally not used for visual formulation. We are using material in a way students have not thought of before. In order to avoid mere application of theory and technique, I prefer the inductive method – that is coming to conclusions after having made exercises, after having gained experience. We choose new problems and attack them in a new way not for the purpose of being new or different, nor for the sake of novelty-craze, but for the purpose of constant observation and continued self-criticism. In this way we try to counteract habitual application, the strongest enemy of creativeness.

**B. *Basic Drawing***. For practical art studies I consider freehand drawing the most comprehensive training. By drawing I mean a visual formulation achieved by strictly graphical means, that is, mainly line. I therefore exclude consciously all techniques which are just in-between painting and drawing, as for instance charcoal drawing. Charcoal drawing, like any type of drawing, aims at the three-dimensional volume, but in addition at a quite superfluous painterly effect, achieved by indication of modeling and shading. I also do not believe in beginning with life drawing from the nude, as in my opinion this presents one of the most difficult tasks. Instead, particularly in the beginning, we do a number of technical exercises in order to get eye and hand under control and to achieve distinct effects. Also right from the beginning, I make the students aware that we do not see with the eye only. Particularly in relationship to direction our motoric sense is more competent than the eye. We draw a lot in the air, also with closed eyes, and always above the paper before we touch the paper at all. This aims at seeing the shape of form before it appears on the paper. We say: Just as thinking is before speaking, so seeing is before drawing. Here are some typical exercises: Reversed, repeated, and extended shapes (radial and lateral); reversed and distorted curves; a few typical letter constructions, seen forward and backward, downward and upward, then letters – both constructed and script – so that they appear as having volume, in various positions.

Our figure drawing we start with the draped figure. And for the studies of drapery, particularly the folding, we represent first broad paper ribbons mounted on the wall in a flag-like movement. Here we differentiate, first visually, then graphically, the actual line (that is the edge of the paper) from the illusionary transition line. After this we draw details from garments in their plastic movement; how a collar moves over the shoulder downward, how for instance the folding of the trousers is related to the knee, starting there or returning there. Only later, after more training (hats and shoes), will we study heads and hands. In further technical exercises we present three-dimensional illusion in two ways: by gradual increase and/or decrease of the intensities of lines as well as by gradual increase and/or decrease of distance between lines. From here we come organically, easily, to the drawing of plants, and twigs, and flowers. Also to sketches of groups of figures just as the drawing class presents them, saving hereby models.

As to sketching we make a special effort to avoid the commonly used "boxing-in" contours. This is to say that our main concern is to present three-dimensional effect with strictly two-dimensional means.

**C. *Basic Color***. My color course also presents a learning through experience instead of a learning through application of theory and rules. It is a laboratory study aiming at specific psychic effects. We almost never see in our mind what color physically is, because color is the most relative medium in art. This is the result of both the interdependence of, as well as the interaction between color and color, color and form, color and quantity, color and placement. After having recognized the physiological phenomenon of the after-image (simultaneous contrast), it is always a great excitement for the class to demonstrate that one and the same color with changing conditions can look unbelievably different. In a similar discrepancy between physical fact and psychic effect we make very different colors look alike, we make opaque colors look transparent, change the temperature within one color from warm to cold or vice versa, change dark to light and light to dark, make two colors look like three, or three colors like two, etc.

We produce illusionary mixtures as well as optical mixtures. We study the conditions of mixture through the Weber-Fechner law, which teaches us the interdependence between geometric (physical) and arithmetic (psychic) progression of mixtures. The more we see that color always deceives us, the more we feel able to use its action for visual formulation.

Like students of music our students are encouraged to cultivate a free play of their color fantasy in the so-called free color studies, which alternate with the laboratory studies. Both laboratory studies and free color studies are done almost exclusively with colored paper

instead of paint, because paper, being a homogeneous material, permits us to return to precisely the same tint or shade again and again. It avoids all disturbing accidents like brush strokes and changing mixtures and applications. A brief study of color systems – of Goethe, Munsell, Ostwald – occurs at the end of the course (not as usual at the beginning), because – to say it again – the ability to see color and color relationship is more important than to "know about" color.

So in drawing and color we have been able to cover almost the whole range of problems. Whereas in basic design we could concentrate only on a few materials: paper, representing visually a two-dimensional material, and wire, representing a linear material.

### 4. Final comments

I am impressed with the pioneer spirit manifested by students and teachers. I admire in particular the intensity with which the two originators of the project, Frau Inge Aicher-Scholl and her husband Otto Aicher, work for this new institute. I have the highest respect for their exceptional human qualities and base my hopes for the Hochschule für Gestaltung particularly on the great artistic abilities which Herr Aicher and Herr Bill, the Rector of the school, possess. Max Bill has been a consultant to the two former for several years, after the original idea of the Hochschule für Gestaltung was brought up.

It was a pleasure for me to work with the group of students at the Hochschule. They were twenty in number and came from six different countries. It was interesting and stimulating for both teacher and students to have people from such different backgrounds as Great Britain and Brazil among the group. It was amazing to see how in spite of the marked differences in background and temperament all pulled toward the same aim: the search for our visual language.

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Originally published in *Form* (Cambridge, England), no. 4 (April 1967): 8–10. This text is a report on courses in Basic Drawing, Design and Color, given at the Hochschule für Gestaltung at Ulm, November 24, 1953–January 23, 1954. Typescript signed on January 20, 1954.

English typescript, Box 3 and Box 22, typescript of the report's German summary, Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library; Box 35, Folder 17, The Papers of Josef and Anni Albers.

The Ulm Hochschule für Gestaltung (University of Design) was founded in 1950 by Inge Aicher-Scholl, Otl Aicher and Max Bill, who was its first director. It was born as a reconstruction project, financed by the United States, to revive the foundations of the Bauhaus teachings that had been shattered by the Nazis. It closed in 1968. Albers was appointed visiting professor from 1954–1955. See also Christiane Wachsmann, *Bauhäusler in Ulm. Grundlehre an der HfG 1953–1955* (Ulm: Ulmer Museum HfG-Archiv, 1993).

## The Color in My Painting (ca. 1954)

They are juxtaposed for various and changing visual effects. They are to challenge or to echo each other, to support or oppose one another. The contacts, respectively boundaries, between them may vary from soft to hard touches, may mean pull and push besides clashes, but also embracing, intersecting, penetrating.

Despite an even and mostly opaque application, the colors will appear above or below each other, in front or behind, or side by side on the same level. They correspond in concord as well as in discord, which happens between both, groups and singles.

Such action, reaction, interaction – or interdependence – is sought in order to make obvious how colors influence and change each other: that the same color, for instance – with different grounds or neighbors – looks different. But also, that different colors can be made to look alike. It is to show that three colors can be read as four, and similarly three colors as two, and also four as two.

Such color deceptions prove that we see colors almost never unrelated to each other and therefore unchanged; that color is changing continually: with changing light, with changing shape and placement, and with quantity which denotes either amount (a real extension) or number (recurrence). And just as influential are changes in perception depending on changes of mood, and consequently of receptiveness.

All this will make aware of an exciting discrepancy between physical fact and psychic effect of color.

But besides relatedness and influence I should like to see that my colors remain, as much as possible, a "face" – their own "face," as it was achieved – uniquely – and I believe consciously – in Pompeian wall-paintings – by admitting coexistence of such polarities as being dependent and independent – being dividual and individual.

Often, with paintings, more attention is drawn to the outer, physical, structure of the color means than to the inner, functional, structure of the color action as described above. Here now follow a few details of the technical manipulation of the colorants which in my painting usually are oil paints and only rarely casein paints.

Compared with the use of paint in most painting today, here the technique is kept unusually simple, or more precisely, as uncomplicated as possible.

On a ground of the whitest available – half or less absorbent – and built up in layers – on the rough side of panels of untempered Masonite – paint is applied with a palette knife directly from the tube to the panel and as thin and even as possible in one primary coat. Consequently there is no under or over painting or modeling or glazing and no added texture – so-called.

As a rule there is no additional mixing either, not with other colors nor with painting media. Only a few mixtures – so far with white only

– were unavoidable: for tones of red, as pink and rose, and for very high tints of blue, not available in tubes.

As a result this kind of painting presents an inlay (intarsia) of primary thin paint films – not layered, laminated, nor mixed wet, half or more dry, paint skins.

Such homogenous thin and primary films will dry, that is, oxidize, of course, evenly – and so without physical and/or chemical complication – to a healthy, durable paint surface of increasing luminosity.

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Published in *Josef Albers on his Seventieth Birthday* [exh. cat. (English version) Kunstverein Freiburg, March 16–April 13, 1958] (Freiburg: Kunstverein, 1958), 14–15, accompanying Will Grohmann's text, "A Tribute to Josef Albers on his Seventieth Birthday," originally published in the German newspaper *The Frankfurter Allgemeine Zeitung*, March 19, 1958. For a full reproduction of Grohmann's text, see p. 329.

Also published in the *Yale University Art Gallery Bulletin* 24 (October 1958): 26–27. Republished as "The Color in My Paintings" (in plural) in *Josef Albers: Homage to the Square / Josef Albers: Homenaje al cuadrado* (New York: The International Council of the Museum of Modern Art, 1964).

Original typescript, Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## Color (n.d.)

Color
engages me
as an autonomous expressive medium in art:

owing
to its unique effectiveness

manifested
in its versatile interaction
with other colors
and other formal mediums

and conditioned
by our varied psychic reaction to color
(both separate and combined)

further,
for its adaptability
or relativity (instead of dependency)

in figuration: organic (free)
or mechanical (mathematical) form –
specified or unspecified boundaries

in placement: top – bottom
right – left
near – far

in quantity: extent – surface content
number – repetition

in intensity: pure – mixed
light – dark

further,
for the change in appearance
conditioned by the change of surroundings,
or the change of the psyschic effect
in our perception
conditioned by our changing emotional state

in sum:
color challenges me
as the most relative medium in art.

Undated unpublished typescript, originally written in German as "Farbe," Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Translated from the German by Russell Stockman.

## On My Painting (n.d.)

When I paint
I think and see
first and most – Color
but color as motion

Color not only accompanying
form of lateral extension
and after being moved
remaining arrested

But of perpetual inner movement
as aggression – to and from the spectator
besides interaction and interdependence
with shape and hue and light

In a direct and frontal focus
or when closely felt
as a breathing and pulsating
– from within

Undated unpublished typescript, Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## On My Homage to the Square (ca. 1954)

Seeing several of these paintings next to each other
makes it obvious that each painting
is an instrumentation in its own.

This means that they all are of different palettes,
and, therefore, so to speak, of different climates.

Choice of the colors used, as well as their order, is
aimed at an interaction –
influencing and changing each other forth and back.

Thus, character and feeling alter from painting to painting
without any additional "hand writing"
or, so-called, texture.

Though the underlying symmetrical and quasi-concentric
order of squares remains the same in all paintings
– in proportion and placement –
these same squares group or single themselves,connect and
separate in many different ways.

In consequence, they move forth and back, in and out,
and grow up and down and near and far,
as well as enlarged and diminished.
All this, to proclaim color autonomy
as a means of a plastic organization.

Published in *Josef Albers on his Seventieth Birthday* [exh. cat. (English version) Kunstverein Freiburg, March 16–April 13, 1958] (Freiburg: Kunstverein, 1958), 14–15, accompanying Will Grohmann's text, "A Tribute to Josef Albers on his Seventieth Birthday," originally published in the German newspaper *The Frankfurter Allgemeine Zeitung*, March 19, 1958. For a full reproduction of Grohmann's text, see p. 329. Republished in *Josef Albers: Homage to the Square / Josef Albers: Homenaje al cuadrado* (New York: The International Council of the Museum of Modern Art, 1964).

Typescript, Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## [To Design is to Plan and Organize…] (1958)

To design is
to plan and organize,
to order, to relate
and to control

In short it embraces
all means opposing
disorder and accident

Therefore it signifies
a human need
and qualifies man's
thinking and doing

Consequently,
a school of design
is not first an opportunity
to express oneself

It is an educational area
to teach systematically
and to learn step by step
– through practical work
and thus through experience –
observation and
articulation

Our department of design
therefore promotes particularly
basic studies:

Basic Design and Basic Drawing
Basic Color and Basic Sculpture,
also Lettering and Drafting
as required training
for specialized studies:

in drawing and painting
in graphic design and photography
in typography and printmaking
elemental and structural sculpture

The success of such a program
obviously depends
on dedicated teaching
directed by love besides method
and devoted students
encouraged by the excitement
of growth of vision.

First published as "Art at Yale" in the *Yale Alumni Magazine* (March 1958): 6–7, 16. Later re-published in numerous articles and catalogues, often using only the first six lines, as in "On Art & Expression," *The Yale Literary Magazine* (spring 1960): 49.

## Dimensions of Design (1958)

From a statement on design which I wrote recently, I quote here the beginning:

To design is
to plan and organize
to order, to relate
and to control

In short, it embraces
all means opposing
disorder and accident

Therefore it signifies
a human need
and qualifies man's
thinking and doing

With this I point at design as an outspoken human affair and its concern with quality and selection and consequently at its ethical implications.

Therefore I do not accept the much-posted slogan "Design is everywhere." Of course nature presents order, and surely relationship, but only nature's order – although an admirable order.

I believe that it is human control, or if you prefer, human interference with nature, that converts earth and water – and what grows from both – into design.

It is human imagination, creativeness, that transfers nature's products into containers and tools, to name just two categories of designed products which answer human needs.

And we are learning – finally at the middle of the 20th century – that tradition in art is to create – not to revive. That tradition is to look forward – not backward, to look inward instead of outward.

We come to education, a most decisive factor in any field of human endeavor. And this leads us here, naturally, to the teaching of design

which is to prepare on the active side: planning and producing; on the passive side: consuming and appreciating designed goods.

To this end I will try to present a few typical features of our teaching of design at Yale. I hope this will offer new viewpoints and comparisons. I hope it will stimulate a re-evaluation of our work, and challenge self-criticism.

As in all general education, we start with elementary studies. Therefore from all students, whether departmental professionals or visitors from the campus – undergraduates and graduates – we require studies in basic drawing, basic design, basic color.

To make clear what "basic" means I must emphasize that we do not believe in so-called self-expression, neither as a way of study, nor as an aim. Instead, we believe in a systematic step-by-step training of observation and articulation, that is, of clear seeing first, and of precise formulating second – both, we believe, the natural conditions for producing meaningful form.

Though only excerpts follow here, the first of the three described courses, basic drawing, is presented more extensively, in order to show the way of our teaching.

Basic drawing:
No nudes – no charcoal – no life class – but learning to draw. Learning the craft of – first strictly linear articulation, we try to develop seeing eyes, understanding minds, controlled hands.

As, reasonably, thinking comes before speaking – so seeing before drawing. Thus we draw in the air – above the paper – blind – before touching the paper, and fill pages from edge to edge – leftward and rightward – with exercises, often on top of each other – red over black, ink over pencil.

Producing likenesses by repeating, multiplying many shapes, we discover that the motoric sense (muscles) often leads us better than eyes. Then we reverse shapes around axes of various directions, straight and curved shapes – letters, calligraphic and constructed. We give such two-dimensional shapes three-dimensional volume, standing, lying, slanting – reading down, up, or sideward.

We construct extended forms, in radial and lateral extensions. Also study thoroughly foreshortened circles – ellipses and their optical conditions and relate curvature and angulature in slanting positions.

We distinguish edge and transition lines and draw draped, ruffled papers, then jackets and coats, first on hangers and then on hooks, which leads us to sketching human figures; many figures, again and again. Thus we study mainly dressed figures and preferably members of our drawing class.

We start by scribbling the foldings of the drapery as it falls and moves around the figures. We leave out everything too hard to do, such as hands and faces, until we dare to try, or are able to handle them.

Alternating we draw objects from model, from memory, or imagination: from pots and glasses to twigs and flowers, from furniture to tools, and after extensive studies of umbrellas and bicycles, in many positions, we move on to zoological projects in museums.

We train disposition (eyes ahead of pencil point – and no correction by erasing); ductus drawings of surface structure and facture. We modulate lines through gradation of intensity and distances – instead of reading, hatching. And the final aim: lines which make us read the in-between-of-lines.

The principle: no application of design principles!

The aim: discovery and invention; through unprejudiced manipulation of materials (best when little known), also of form elements.

The evaluation (as with engineers): the ratio of effort to effect. Therefore the continuous device: be economical – do less and get more!

Three-dimensional is primary, and also more frequent than the two-dimensional: the latter is more difficult and visually much rarer!

In practicing: Find the physical boundaries of capacity of the material and achieve psychologically, a reading beyond the boundaries.

As an example: Clay is not to prepare wood or metal sculpture, because such conception has ruined sculpture for centuries, particularly clay emasculated by armature!

To make this report basic instead of critical: Study placement as constellation; the latter is not habitual – not mechanical – habitualness is the antipode of creativeness.

We deny these most negative design principles: We reject "variety" as it is to excuse lack of imagination mainly.

Also we warn against "texture": It is essentially against shape and color, particularly when it is abused as personal handwriting – in this cultural depression of individualism. Straight texture is to present the genuine face of the material and an honest acceptance of the working traces of tools.

Conclusion: Basic design as grammar of visual language cultivates "thinking in situations."

Thus, it goes beyond mathematics and physics, and further than economics, as it presents that one and one equals three also, that one and one equals four – but only in art! (Mr. Albers illustrates this on his fingers.)

We never see actually what color factually is. This discrepancy between physical fact and psychic effect defines color as the most relative medium in art.

For learning by experience, and for developing sensitivity, we produce distinct illusionary effects, and first only single effects. We are able to make three colors look like two; three like four; four like three. All studies are exclusively in color paper which offers precise repetition. It avoids matching, mixing, and most important, [it] avoids [the] temptation to claim failures as "wanted," or as personal "handwriting." Paper also, fortunately, excludes mechanical mixing. Thus we study mixtures more thoroughly in our imagination, produce illusionary mixtures, many distinctly defined mixtures. Though using only opaque colors, arrive at illusion of transparence.

We learn optic of mixtures in regard to precise amounts, that for instance a progression perceived as arithmetic is physically a geometric one, or, mixtures, physically in geometric progression are visualized as arithmetic progression!

Beyond systems and rules aiming at harmony, we apply also discord. We believe that any color "goes" with any color if the quantities are right. Therefore we study the effect of changing quantities, as extension and recurrence, but reproduce also color instrumentation of the masters.

As only sensitivity for color justifies an application of color we should learn to see color. Then we may forget to apply just rules such as complementary, triad, tetrad juxtaposition, and particularly split complementaries. They all are not precise; they are ambiguous, they are worn out, they have become uninteresting.

I hope that the courses described indicate study; also our aim which is observation and articulation – seeing and formulating, the conditions of any art studies. With them we oppose first the academic concept of "theory and practice," because, naturally, practice is first; second, we oppose a *laissez-faire* of art classes rejecting directed learning and therefore growth and intelligence.

Our basic drawing means fundamental discipline. Basic design means training in imagination. Basic color is sheer magic. The expectation that such training through class projects and exercises will level personality, individuality, has proved entirely wrong. Because constant comparison, self-evaluation, means study of ourselves.

> Only in this way we will serve human co-existence for which education has been invented originally, and again and again through the ages.

As human life and society demand fulfilled obligation, we as people depending on eye and hand, must be aware and make aware that the visual type of student and the manual and auditory type deserve as much educational attention as a minority of intellectuals, if we aim at democratic learning which is learning for all.

Therefore, if our work is or approaches art, then sensitive eyes will discover an inner seeing, inner reading, revealed on the producer's side and equally evoked on the spectator's side.

With such conceptions we again move away from the 19th century which considered nature as the main source of creative inspiration. But we have found that nature too easily is read as something outside of us – around us, possibly excluding ourselves.

But if man is our first concern, then I recommend life, human life as a closer and deeper inspirational source.

All evaluation stems from comparison. Analogies or parallels between our work and situations or conditions of human life are more convincing and, I believe, also lead our work further than similarities with forms in nature.

After the present fashion of self-expression and over-individualization, manual work and art and craft will be needed and will be asked for to give weight to the development of ability and will, the first and last justification of education. Then art and craft together are to direct true design as means of cultural growth – on [a] professional level in studios and workshops.

Our time is encouraging: the public is interested in art; art books and poetry have become bestsellers; after too much of Renaissance and of 19th century revival, we now learn art from so-called primitive peoples. Their visual revelations move now from natural history collections into art museums; we learn from folk art that respect for material moves on a higher level than added "personal handwriting." It should become clear that true design is good instead of "interesting." Real design is serving instead of entertaining.

Beyond multi-colored iceboxes competing with rejuvenated hotels, all the proclaimed color consciousness of our days, despite all restylings, do-it-yourselfs, despite personalized book matches or streamlined cars and all the many tail fins (but I like better: tail tins and fail tins – tin tails, fin fails, tin fails) and all the like, let us not overlook the most decisive mission of design, that is its mission as educational and cultural force.

The emissaries of design's mission know and will demonstrate that behavior produces form – behavior of material plus behavior of our self. They are aware that in return, form results in behavior. I repeat: Behavior produces form, and forms results in behavior.

The emissaries will promote color sensitivity instead of color consciousness. They will develop receptiveness, receptiveness for meaningful form, which advocates a meaningful life – instead of gracious living.

Concluding, I dare to forecast: It will be seen again that beauty is more than outside, surface make-up, that beauty is virtue.

> So I am looking forward
> to a new philosophy
> addressed to all designers
> – in industry – in craft – in art –
> and showing anew
> that esthetics are ethics,
> that ethics are source and measure
> of esthetics.

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Paper presented at the Second Annual Conference of American Craftsmen's Council, Lake Geneva, Wisconsin, June 23, 1958. Originally published in *Dimensions of Design* (New York: American Craftsmen's Council, 1958), 13–18. Some excerpts from the key address were published in *Craft Horizons* 18, no. 5 (September–October 1958): 9. Reprints, Box 23, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Typescript carbon with handwritten corrections and notes and conference pamphlet, Box 84, Folder 20, The Papers of Josef and Anni Albers.

Josef Albers recalled the full statement [To Design is to Plan and Organize...] (1958) as well as the four initial paragraphs of this text to explain his view of "Design as Visual Organization" in his lecture "Art Studies as Basic Training: Observation and Articulation" (1965), published as part of *Search Versus Re-Search* (1969). For a full reproduction of this text see p. 302.

## Albers Answers: "What Is Art?,"* "Can Art Be Taught?," "What Would You Say to the Young Artist?" (1958)

The Lit. asked Albers three questions.
Here, in his personal terminology, are his replies.

I. *What is art?*

* Albers responded to this first question with the statement he made in "The Origin of Art" (ca. 1940). For a full reproduction of this text, see p. 253.

II. *Can art be taught?*

Experience teaches that writing a letter looks at times easy, at other times difficult, and sometimes even impossible. This shows that in verbal formulations we are exposed to chance.

Losing such chances we call a failure, being unproductive, uncreative. But winning, that is recognizing and using chances, we consider pleasantly successful – creative.

So far, the creative process remains secret, a wonder. But we might speculate that creativeness is the lucky readiness to feel, to sense, to see an opportunity – to discover and to invent. In other words, it is to be aware and keen, to be sensitive and flexible enough not to miss the chance of finding and presenting a new idea, a new seeing.

And all this, whether in science or art, is not an affair just of learning and knowing theories and rules and of applying them. It is looking forward, and luckily and therefore happily imagining.

As in science so in art, whether in verbal or visual formulation, creativeness cannot be taught, at least not directly.

Creating art therefore is to be developed. All that teaching can do toward it, and must do, is to provide a thorough training in observation and articulation – that is, learning to see and learning to formulate. And all this in order to reveal and to evoke vision.

It remains a psychological error to believe that art stems from feeling, from emotion only.

Art comes from the conscious, as well as from the subconscious – from both heart and mind. It is intellectual order as well as intuitive or instinctive order.

For those afraid of the training of the conscious in art, afraid of the understandable in art, I must say that clear thinking – necessary in all human endeavor – will not and cannot interfere with genuine feeling. But it does interfere with prejudices, too often misinterpreted as feelings.

Concluding, let us be aware that self-expression is more than self-disclosure; but also that creation goes further than expression.

III. *What would you say to the young artist?*

My main advice for practicing students of any art today is a severe warning: Keep off the bandwagon!

All the great ones did. By great is meant here not the momentary and fashionably successful – but the inventive performer of a new seeing: the one who creates vision and therefore presents a new everlasting insight.

The visionary and lasting one always has kept independent of fashionable trends. Not for the sake of separation, nor for being merely different, but for being himself. He knows that developing art depends upon developing oneself. But he also knows this means a most intensive work based on continued self-criticism, for years, for many more years, for a lifetime.

Developing individuality – and developing it quickly – as an aim of art training has never been promoted as much as today. And the significant result of our over-individualization? Today's painting – and often sculpture – exhibitions look so much alike – also as never before.

True individuality – personality – is not a result of forced individualness or stylization, but of truthfulness to one's self – of honesty and modesty.

A true painter paints and has no time not to paint, as a true writer writes, because he has no time not to write.

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Published in *Yale Literary Magazine* (1958), and reprinted in *Art and the Craftsman: The Best of Yale Literary Magazine 1836–1961*, ed. Joseph Harned and Neil Goodwin (Carbondale, IL: Southern Illinois University Press, 1961).

## On My Work (1958)

When I paint and construct
I try to develop visual articulation

I do not think then – about abstraction
and just a little – about expression

I do not look for isms
and not at momentary fashion

I see
that art essentially is purpose
and seeing (*Schauen*)
that form demands
multiple presentation
manifold performance

I do not see
that forced individualism
or forced exaltation
are the source
of convincing formulation
of lasting meaning

In my own work
I am content to compete
with myself
and to search with simple palette
and with simple color
for manifold instrumentation

So I dare further variants

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Published in *Josef Albers on his Seventieth Birthday* [exh. cat. (English version) Kunstverein Freiburg, March 16–April 13, 1958] (Freiburg: Kunstverein, 1958), 13, accompanying Will Grohmann's text, "A Tribute to Josef Albers on his Seventieth Birthday," originally published in the German newspaper *The Frankfurter Allgemeine Zeitung*, March 19, 1958. For a full reproduction of Grohmann's text, see p. 329.

Also published in the *Yale University Art Gallery Bulletin* 24 (October 1958): 26–27; in "Statements and Documents," *Daedalus* 89 (winter 1960): 105, special issue on "The Visual Arts Today;" as "On Enunciation," *Yale Literary Magazine* 129 (May 1960): 52; and in *Josef Albers: Homage to the Square/ Josef Albers: Homenaje al cuadrado* (New York: The International Council of the Museum of Modern Art, 1964).

Typescript, Box 14, Folder 123, and Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library; Typescripts, typescript ca. 1959, 1960 carbons with handwritten corrections, Box 80, Folder 36, The Papers of Josef and Anni Albers.

## [The Painter in His Painting …] (n.d.)

the painter in his painting

| | | |
|---|---|---|
| presents | a viewpoint | (interpretation) |
| | or standpoint | (presentation) |
| speaks | via means | (as musical instrument) |
| | or through means | (as voice) |
| gives | reflection | (indirectly as through a mirror) |
| | or direction | (directly from within) |
| as | conductor | |
| | and performer | |

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Undated unpublished typescript, Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## On Articulation (1960)

See and say “ex,” and write and spell it
And hear and listen, and feel how it feels,
this word, or prefix, or name of a letter

Also spell and write, and say and see “press”
Say it also without voice, and feel the mouth
performing it

Then we will recognize each of the two words
showing an outspoken, firm face
And we cannot overhear, overlook
their double strength and double impact
in their combination, the verb “to express”

We feel that it means something forceful
– of an act of will, and with purpose and aim –
something meant, and of necessity and character

All of which signifies its generators,
communication and articulation,
which still remain active for instance
in the saying “this is an expression”

But where do those features remain
in the liaison of “expression” and “self,”
in today’s too frequent art term “self-expression”?

Let us remain aware of how often it happens,
the formulation of an “expression”
And see how many, today, practice self-expression
– all the time – and have nothing to say –

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Published in *Yale Literary Magazine* 129 (May 1960): 53. Josef Albers, 1929–1970, Archives of American Art, Smithsonian Institution.

Josef Albers recalled this statement in his lecture “General Education and Art Education: Possesive and Productive” (1965) which was published as part of *Search Versus Re-Search* (1969), in order to explain his rejection of self-expression.

Josef Albers reproduced his statement on articulation to close his interview with Sevim Fesci, Oral history interview with Josef Albers, 1968 June 22–July 5, Archives of American Art, Smithsonian Institution, http://www.aaa.si.edu/collections/interviews/oral-history-interview-josef-albers-11847 (accessed January 11, 2014). Albers claimed that “youth [then was] tired of so-called self-expression,” and that they finally again wanted “to know why one does this and not this.”

IV.
LATER
TEXTS
1961–1976

## In Behalf of Structured Sculpture (1961)

It is an antiquated concept of the 19th century that human action and development follow primarily economic conditions. It is just as erroneous as the equally old assertion that the development of art depends on wealth.

Now, in the middle of the 20th century it should be recognized that psychological reasons are more commanding than economic reasons; that being is more decisive than possessing, just as emotions are more compelling than riches. Also, equality is non-existent, mentally as physically.

In a comparative parallel between architecture and sculpture, we have seen that periodic preferences – obvious particularly in fashion – follow the psychological sequence of action-reaction, and reaction-action.

Thus, it was only natural that after a long period of emphasis on volume in sculpture, a pronounced interest in line succeeded. But we have seen also that in both fields only a few were drawn to the other opposite, the in-between of volume and line, namely the plane as basic form element: the plane which challenges an entirely different articulation, and which opens also new aspects of volume and line. With a thinking in planes, sheets, especially of metal and plastics, have become a focal point, as well as a point of departure.

Working in such material and shape, which means starting sculpture almost within two dimensions, demands readiness for restriction, since limitations obviously reduce possibilities.

Planning again becomes imperative, and with it, preparatory studies, sketches, plans and blueprints, repeated trying and testing. All of which distinguishes and separates initial rehearsing from final performance. Thus, realization – execution and presentation – are of primary concern. Instead of individual expression and personal handwriting, workmanship and precision dominate. Which explains also why folk art appears anonymous and timeless, why it avoids accidentals – and withstands fashions.

Again, beginning with idea and vision, moves thinking and seeing to the front, and with it self-control and self-correction. After so much drowning in impotent gesticulation and surrender to aimless happenings, a new hope appears justified: for something actually new and promising.

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Published in edited form as "The Yale School – Structured Sculpture," in *Art in America* 49, no. 1 (March 1961): 75, with images of sculptures by Albers' students exhibited at Galerie La Chalette, New York, in December 1961.

Typescript dated May 1961, Box 13, Folder 31 / Box 80, Folder 11, The Papers of Josef and Anni Albers. Handwritten text by Albers: "At a request by the editor of *Art in America* written for that magazine in spring of 1961. It was published with my agreement without the two first paragraphs (I am sorry) and a few minor changes. It appeared in the third issue of 1961 (in October) [sic] of *Art in America*."

The text reproduced here is the full version of the original article.

## [The Artist's Voice: Josef Albers] (1962)

*Question*: How do you explain the fact that almost all modern artists claim to be realists in one way or another, no matter how abstract their work? Do you consider yourself one?

*Albers*: You see, for me the word "realism" means the opposite of expressionism. And I very much distrust expression as a driving force and as an aim in art. I've tried to learn why and when the word became so important. For this reason I read everything Cézanne said about art, though ordinarily I don't read such books. But I happen to be a great admirer of Cézanne's attitude. I found the word "expression" used only once by him, for while today this word dominates us, he says instead, "I want to realize." And in this sense I would like to be considered a realist. I would like to realize myself. For me, abstraction is real, probably more real than nature.

*Question*: Why?

*Albers*: I'll go further and say that abstraction is nearer to my heart. I prefer to see with closed eyes.

*Question*: Why are interrelationships of color so important to you? Why are they more important than interrelationships of form or space?

*Albers*: I think art parallels life; it is not a report on nature or an intimate disclosure of inner secrets. Color, in my opinion, behaves like man – in two distinct ways: first in self-realization and then in the realization of relationships with others. In my paintings I have tried to make two polarities meet – independence and interdependence, as, for instance, in Pompeian art. There's a certain red the Pompeians used that speaks in both these ways, first in its relation to other colors around it, and then as it appears alone, keeping its own face. In other words, one must combine both being an individual and being a member of society. That's the parallel. I've handled color as man should behave. With trained and sensitive eyes, you can recognize this double behavior of color. And from all this, you may conclude that I consider ethics and esthetics as one.

*Question*: Does this mean that you disapprove of an art that reflects the destructive forces of life?

*Albers*: No, I believe criticism of life can be constructive. This, of course, presupposes that the criticism is not merely a fashion, but a conviction. Any form is acceptable if it is true. And if it is true, it's ethical and esthetic.

*Question*: When you colors vibrate, are you trying to suggest movement?

*Albers*: I don't accept your term "vibrate," because in my understanding, vibration of color happens only rarely. What I'm after, in a broader term, is interaction. If I can refer again to the parallel with life, the job is to make the unbearable, bearable, or to

make that which doesn't behave, behave. This means a different organization of conditions for every color and every situation. A color can be placed among other colors so that it loses its identity. Red looks green or looks like a gas – dematerialized. Gray can look black, depending on what surrounds it. This I call "acting color." I work with the same painting, the same colors over and over – innumerable times. As a rule, I use either three or four colors in a painting. Merely by changing one color, a totally different climate is produced, though all the other colors in the work remain identical in area and hue. With two separate colors in no way overlapping, three are produced through interaction. Each borrows from and gives to the other. Where they meet, where they intersect, a new color results. In science, one plus one is two, but in art it can be three. Often I have to paint a picture ten different times before I reach a realization. I usually start with a very small sketch; then comes painting after painting until I realize what I'm after. What I want is to play staccato and legato – and all the other musical terms, but not for the purpose of expressing myself.

*Question*: If you're not expressing yourself, what are you doing?

*Albers*: I'm pleasing myself and educating others to see. If these paintings are me, this is an unavoidable result – not calculated. What I'm calculating is the interaction of color.

*Question*: Do you consider the most important interactions those of color?

*Albers*: In my paintings, line doesn't amount to much, but in my linear constructions I use line for the purpose of interaction. According to most color systems, harmony depends on the constellation of colors within a system. I go further in saying that, first, harmony is not the main aim of color. Disharmony is just as important in color as in music. And second, I say that every color goes with every other color if the quantities are right. This, of course, leads to a new seeing of color.

*Question*: Why are you so interested in making what is, seem what it is not?

*Albers*: A cow sees grass merely as an edible vegetable – I don't believe it sees a lawn as a carpet and it probably doesn't care about all the greens possible. But a poet putting his nose into grass can see it as a forest. This for me is reality, the myth behind the fact.

*Question*: I notice you never use canvas.

*Albers*: I always paint on board because it has the resistance of a wall. I can't stand canvas; it runs away from the touch – an unpleasant feeling for me. It's too evasive. When I was young, I had many interests and worked with many materials from paper to glass, from wire to matchboxes, from wallpaper to furniture, from lettering to graphic design. In the meantime I've grown, and this means limiting the extension of my work in favor of the intensification of it.

*Question*: In order to say what you want to say, must your work be geometric?

*Albers*: I don't know whether it's as categorical as that. So far, it is my preference. Submitting to life is like any design – a recognition of restrictions.

*Question*: Did studying with Klee and Kandinsky at the Bauhaus influence you?

*Albers*: First of all, I did not attend either of their courses. Secondly, I did everything possible not to fall into their tracks. It would have been too easy. But I have the greatest respect for them.

*Question*: Do you think it is possible to teach art?

*Albers*: After having taught for half a century, I believe that art as such cannot be taught, but a lot can be done to open eyes and minds to meaningful form. Teaching can prepare a readiness to reveal and evoke insight.

*Question*: Do you feel that disorder and the accidental are never important elements in art?

*Albers*: No, I wouldn't say that. Accidents can be important as points of departure, but not as aims in themselves. Otherwise, art is entertainment. I encounter accidents as does anyone else, but I prefer them as controlling stimuli.

*Question*: Many artists say they are searching for their own image in their work. Is this true of you?

*Albers*: The word "image" doesn't exist in my terminology. Sorry.

*Question*: If you had to select six or seven of your most important works, which would they be?

*Albers*: This would be difficult, because every day I'd have another preference, thank heavens. At present, as always, I have preferences. I prefer not to say what my present preferences are – maybe I don't know.

*Question*: Is your approach to drawing different from you approach to painting?

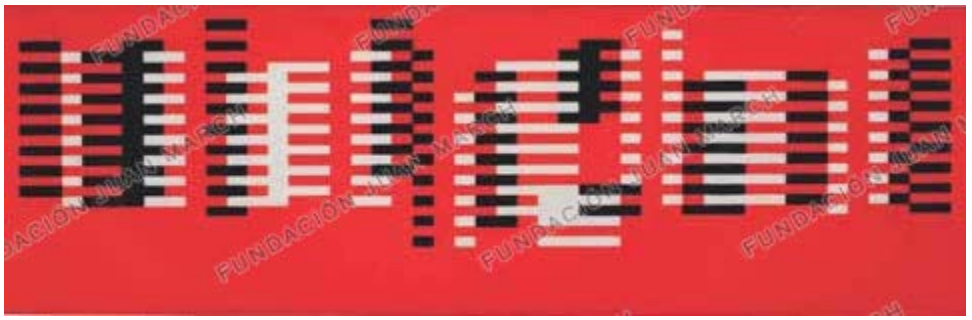
*Albers*: I think I'm right when I say that though my paintings and linear constructions are not connected, they stem from the same attitude, the same urge to achieve from a minimum of effort a quantitum of effect. While I was still teaching in Europe, I used to say to my students, "Do less in order to get more." For example, take this pair of "structural constellations." Within identical contours, the whole function of the drawings changes by altering only a few inner lines.

*Question*: Why do you insist on a white margin around all your paintings?

*Albers*: The reason I always keep a white margin is that I want my pictures to have a beginning and an end. However, I do permit the paintings to look larger than they are.

*Question*: Has architecture played a role in your work?

*Albers*: In my work there is an architectural element. For a long time I've used windows as a theme. Someone once came to the conclusion that I'm a frustrated architect. Take this painting on glass from 1929 – it's sandblasted directly on glass, not painted.



Josef Albers, *Fuge* (Fugue), ca. 1926. Sandblasted flashed glass with black paint. The Josef and Anni Albers Foundation (1976.6.6)

But at times I also used a stained-glass technique. I've stopped working with glass because it's so perishable. Incidentally, this one, called *Interior*, used the window theme and was the fourth in a connected series of twenty-nine works.

*Question*: Why do you think artists of our century have been so involved with space?

*Albers*: I doubt the validity of your question. When you think of Swabian and Bavarian Baroque artists, you realize they went further with space than we have. After all, I'd like to ask you, how much has Abstract Expressionism to do with space? But I agree that many artists today talk about space. For me it's not an immediate aim. My aim is action, and if it leads to space, O.K. Action for me means intensity, relatedness, mutual interchanges.

*Question*: Is interchange, as such, the main idea in your work?

*Albers*: Yes, I think so. As I said before, art parallels life. And life exists between polarities.

*Question*: How do you start a totally new painting?

*Albers*: Sometimes I close my eyes, and slowly certain color ideas begin to take shape. Then I make any number of preliminary sketches – small, and as a rule not of much importance to start with. Gradually, after innumerable tests, experiments, juxtapositions and slight changes, the picture begins to work.

*Question*: I notice you work in series.

*Albers*: I've always worked in periods during which I've concentrated on certain basic problems. To my surprise, these periods grow longer and longer. The reason for this, I believe, is that in my experience any form demands multiple performance. I don't think we ever find *the* solution for form-articulation. For me there is no end to this. For instance, I've worked for years on end with the series called *Homage to the Square* [cat. 55–64, 66–69, 73–77, 87–105, 109–110] – and I'm still working on it as intently as ever.

*Question*: Is illusion the real content of your work?

*Albers*: What is illusion? It is, as I said before, the myth behind so-called reality.

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Conversation between Josef Albers and Katharine Kuh published in *The Artist's Voice: Talks with Seventeenth Artists* by Katharine Kuh (New York: Harper & Row, 1962), 11–22.

Excerpt photocopies with handwritten corrections (from 1960), Box 67, Folder 3, The Papers of Josef and Anni Albers.

## "Fugue" (1964)

*Josef Albers is a well-known artist and teacher. He was a member of the original Bauhaus in Germany and later Head of the Art Department of Black Mountain College, North Carolina. From 1950–1959 he was Chairman of the Department of Design at Yale University. This work is presented here as one example of an early direction in abstract art that was concerned with relationships of music to art. The following is a brief comment by the artist.*

The "FUGUE" presents a very pronounced parallel to a fundamental structure of classical music.

First, it recalls beat (as measured by metronome) in its vertical, static order, by repeating precisely, and thus mechanically, one and the same measure defining the width, or better, the height of the horizontal stripes.

Second, it performs rhythm in the vicissitude of connecting and separating groups of vertical columns within a horizontal movement – by changing pronunciation and speed.

As to instrumentation, it consists of three very contrasting voices, white and black on a bright red ground which, besides

carrying the two first tones, participates in their vertical as well as horizontal interacting.

As a parallel to acoustic "mixture" in music it produces, in perceptual interaction, many nuances of the three colors used which, unfortunately, cannot be seen in this black-and-white reproduction: varying whites (lighter, darker, pinkish and bluish ones), also different blacks (denser and looser or heavier, lighter and bluer ones) and similarly, several tints and shades of red.

As to technique: this constructed composition is a one-piece glass painting and, being non-transparent, hangs against a wall. In this reproduction the gray represents a very bright, light red which is the flashed surface on a white milk-glass core. The white stripes are produced by sandblasting and thus removing the red surface. The blacks are painted in glass-painter's contour color on top of the red and baked in a kiln.

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First published in *The Structurist* (Saskatoon, Canada), no. 4 (November 1964): 22. Special issue on art and music.

Text on the glass painting *Fugue* (ca. 1926), Box 79, Folder 46, The Papers of Josef and Anni Albers.

# Search Versus Re-Search
## Three Lectures at Trinity College (1965)

*Series of three lectures given in April 1965. First published as* Search Versus Re-Search: Three Lectures by Josef Albers at Trinity College, *April 1965 (Hartford, CT: Trinity College Press, 1969).*

## I. General Education and Art Education: Possessive or Productive (1965)

Once a minor partner in the field of learning (and not long ago of extracurricular status) the arts have become a major partner in college and university study – and life.

Your new Austin Arts Center thus means more than just another impressive, important addition to your campus, to your college plant.

I myself like to consider this Center a demonstration, that is, the commencement of a new era in teaching in which, after a too enduring emphasis on auditory methods, visual perception – seeing and vision – will achieve proper recognition.

Thus, I feel encouraged to talk here at Trinity College in your new Austin Arts Center on behalf of a close-working union of the so-called liberal arts with the so-called fine arts or, in more contemporary semantics, between general education and art education.

The cultural explosion today makes it obvious that a separation of these two educational disciplines is not only antiquated but anti-cultural.

See the growing masses of museum visitors, see the boom in art books as best sellers, and hear the incredible valuations of today's art auctions.

Thus, I am promoting the growing belief that an amalgamation of both general education and art education could arrive at something broad which I like to name comprehensive education, and in which I like to envision an art center as – a college center.

When I try now first to explain the purpose of art studies, I do not need here to prove that art embraces all facets of life, all human activities, from the home to the plaza, from religion to business.

But one could indicate at least the wide extension of activities which the one-syllable word "art" embraces. Besides pictorial arts, which we usually like to think of first, such as drawing, painting, printing, photography, sculpture in innumerable materials, designing

in crafts, in advertising, in architecture, and in city planning – there are the many kinds of vocal and instrumental music, there are the verbal or communicative and performing arts, the many kinds of writing, theater, and dance – a world of human endeavor all considered art.

After such cursory listings of activities some philosophical viewing may help us further. Let me quote a few definitions of art. Although there are many, none of them seems comprehensive, including my own.

St. Augustine says:
"Art makes the inanimate – animated."

And Thomas Aquinas:
"Art is the imitation of nature
– in her way of procedure."
(Please notice: he speaks not of nature's appearance
but of nature's behavior.)

Both Saints, long before Goethe,
go so much deeper than Goethe,
who wrote (typically 19th century):
"Art is nature – seen through a temperament."

And I think it was Chaucer
who said something much closer
to the mentality of today, namely:
"Art makes the invisible – visible."

My own statements on art deal with the source and the content of art, with the measure and aim of art. They read this way as projected on the screen:

The origin of art: The discrepancy between physical fact and psychic effect.
The content of art: Visual formulation of our reaction of life.
The measure of art: The ratio of effort to effect.
The aim of art: Revelation and evocation of vision.

In this lecture I shall try to elaborate on the second and fourth statements, on content and aim, and in my following lectures, on the source and evaluation of art.

If it is justifiable to say that art is visual formulation of our inner response to the world, to the universe, to life, then I recognize two dimensions of mentality:

(a) the mentality of a group or period, and
(b) the mentality of an individual.

This implies further two distinct characteristics of art:

first, the continuity of its objective – vision; and,
second, an ever-changing presentation – formulation.

Vision and formulation are the generative sources of art. Since they grow with individual reflection and insight, art itself – the creation of art – cannot be taught directly any more than it can be in music and other arts. This is what my own teaching – during forty-five years – has taught me, in grammar school and at the Bauhaus abroad, and at colleges and universities on this continent.

Although it may sound contradictory, I still believe that art can be developed, can be learned, and that art schools and art teachers are necessary as are more art centers. For the development of vision, all teaching which aims at art should be a training in observation. For the development of formulation, it must be a training in articulation.

As a consequence, the two basic aspects of art studies in which teaching can offer help are seeing and formulating; in other words, observation and articulation. I repeat: observation – the basis of vision, and articulation – the condition of formulation.

In other words, the objective of a training for art, for its production as well as its appreciation, is visual empathy, which is the ability to read the meaning of form and order.

That the development of those faculties provides tasks for more than a lifetime has been stated repeatedly by the masters, explicitly by Michelangelo and Hokusai.

Unfortunately, today's art teaching is still dominated by a psychological error – the comfortable belief that art stems only from feeling. Art teachers, and therefore art students, are afraid of the understandable in art, of the conscious in art.

For them we must emphasize that a clear mind cannot interfere with true feeling. It does interfere with prejudice and preference wrongly interpreted as feeling. In any field it is worthwhile – as it is in art – to see and to think clearly.

Here I feel obliged to mention a poor heritage given to us by so-called progressive education: that the all-important principle of all art is self-expression. I feel unable to accept self-expression either as the beginning of art studies or as the final aim of any art.

This I must argue: There is no verbal communication before there are sounds of words with meaning. Similarly there is no writing before there is an alphabet.

For the same reason there is no visual formulation before there is visual articulation.

Also, nobody considers the inarticulate sounds of a child as language, and nobody accepts his scribblings as writing. But curiously enough, many are inclined to accept such scribblings as self-expression and therefore – as art. Slowly but finally many are discovering that self-expression is something other than self-disclosure.

Now you see on the screen a statement in verse which I wrote for the *Yale Literary Magazine*:

See and say "ex," and write and spell it
And hear and listen, and feel how it feels,
this word, or prefix, or name of a letter

Also spell and write, and say and see "press"
Say it also without voice, and feel the mouth
performing it.

Then we will recognize each of the two words
showing an outspoken, firm face
And we cannot overhear, overlook
their double strength and double impact
in their combination, the verb "to express"

We feel that it means something forceful
– of an act of will, and with purpose and aim –
something meant, and of necessity and character

All of which signifies its generators,
communication and articulation,
which still remain active, for instance
in the saying "this is an expression"

But where do those features remain
in the liaison of "expression" and "self,"
in today's too frequent art term "self-expression"?
Let us remain aware of how often it happens,
the formulation of an "expression"
And see how many, today, practice self-expression
– all the time – and have nothing to say –

You see, I am troubled by this word now heard from everybody everywhere for too long. I have tried to find out when it became so omnipresent. No historian could help me. Finally, I took refuge with Cézanne, my respected mentor, by reading his dialogues with Joachim Gasquet, reported by the latter, a poet. (Cézanne was a close friend of Gasquet's father, Henry, of whom he painted a portrait as well as of Joachim.)

With that reading I made the comforting discovery that Cézanne almost never used the noun "expression" nor the verb "to express."

Apparently he avoided it, and used instead, and constantly, "realization" and "realizing," his deepest concern and aim.

* * *

In 1933, right after the closing of the Bauhaus, which was then in Berlin, my wife and I were the first Bauhaus members to be called to teach in the United States. That was at the recommendation of the Museum of Modern Art in New York, for the newly founded Black Mountain College in North Carolina. When I answered the first telegram from there, saying "I do not speak English," they replied: "Come anyway." So we left Germany gladly, right after Hitler's rise to power.

When we arrived at Black Mountain College one of the boys asked me what I planned to teach. "To open eyes" was my answer and – my first educational sentence in English. Later I learned that the boy was one of those who considered the study of art as sissy, but all right for girls. This was at a time when apparently only Bennington and Black Mountain College considered art of central importance in college education.

When I was called to teach at Yale (1950), painting in art schools was then suffering – and not only at Yale – from something like diseases, apparently contagious. One was called Picassobia, another Matisseitis, and, in addition, I discovered Kleeptomania.

Apparently it made art studies more comfortable and more promising to see with others' eyes, and to speak in someone else's voice, particularly of successful painters.

But suddenly all those diseases were swept away by an epidemic which obviously made everything still easier – a much stronger virus of self-expression. Since then an over-individualization has taken place. Since then the main concern has been to be different, and different from the already different ones. It all ended with the great surprise that all looked alike.

From this, I learned to present honesty and modesty as the virtues of artists, and felt encouraged to stick to my first educational promise on this continent, namely "to open eyes."

I felt obliged to cultivate basic studies still more, particularly in design, in drawing and color, as a preparatory step-by-step learning, and a beginning with the beginning, that is, with material.

Furthermore and finally, I became convinced that there are no graduate studies for artists in school, and normally not for many years after that.

Our emphasis on fundamental learning and teaching at Yale found overwhelming response, particularly among liberal arts students. Participation in beginning design, drawing, and color courses rose to several times the previous enrollments. Thus, for years, we had about 60 students in color and in design, and even 120 students in drawing.

This despite the fact that in all these courses intensive participation in class exercises was obligatory for all. And design and color demanded extensive homework. Notice also that the drawing class was not a so-called life class and was therefore without nudes, yet we had 120 students.

Such large interest did not come about through advice from the students' professors. Word of mouth recommendation did it, because it proved exciting to develop eyes, and to learn to see. It also proved to be beneficial for all, including doctors and lawyers.

Before explaining more principles of basic art studies in so-called higher learning, let me not forget to refer to art studies in what might be called "lower" learning. I am all for a playful and undirected start in the art studies of children and beginners. But continued trial, as in any continued play or work, results in experience and in insight, and will develop evaluation through comparison, and more, will justly demand criticism and advice.

Consequently, the initial need for being occupied (in German: *Beschaeftigungstrieb*) will lead to, and must be transferred to, a need of being productive, creative (*Gestaltungstrieb*).

Here it may be helpful to recognize that modern architecture and modern typography have become the first branches of art to formulate visually a contemporary mentality.

And these fields have gained such a pivotal cultural position because they have chosen (a) their structural means (new and old) plus (b) today's human needs (physical and mental) as a point of departure for their study and planning.

By this they have annulled the Beaux Arts system of study based on retrospection first, on analyzing and copying ancient achievements first.

On the same premises we have organized our basic design courses, our most elementary teaching. They are to explore principles underlying and connecting all arts. They are also to develop flexible imagination as well as visual idiom.

We do not start with retrospection and have no ambition to represent, to illustrate, to embellish or to express something. And we do not think of making useful objects right away.

We do as music students do in trying to get acquainted first with their instruments, to get means and hands under control before we care about theory and history, and to place exercises before composing and reciting, and rehearsing before performing.

Why did the masters become masters? And why are the great ones great? Because they tried to say something other than *their* masters had, not only different and new, but alive and ahead. Therefore they chose to follow themselves and search, not re-search; to move forward rather than backward.

And they kept away (please listen), they kept away from the bandwagon. They became aware that old is not *per se* better than new and young. They would agree that handmade is not necessarily better than machine-made. For a similar reason the advice of a professor to a young writer to read first many comedies before writing one himself reveals only helpless impotence.

One more reason for promoting more practicing art studies in all general education is the fact that art problems are problems of human relationship. Note that balance, proportion, harmony, coordination are tasks of our daily life, as are also activity, intensity, economy and unity. And learn that behavior results in form – and, reciprocally, form influences behavior.

The objectives of all our basic studies are discovery and invention, the criteria of creativeness. The start is merely exposure to material and its manipulation. Exercises revealing its capacity will lead to structural organization. Recognition of its appearance, that is, of its surface qualities, will result in combination exercises – collage and assemblage. To reject mechanical or habitual application is to promote inductive studies recognizing practice before theory, trial and error before insight. In short, we believe in learning by experience, which naturally lasts longer than anything learned by reading or hearing only.

As to the restriction of our studies to elementary problems, we believe that the more basic and the more preparatory our exercises are, the more we will avoid mannerism and forced stylization, as well as repetitive and imitative discipleship.

With such statements, some people become afraid of losing tradition. History and psychology show that there is no abrupt change or sudden break in human mentality, except through mental illness. It is unfortunate that the common understanding of tradition is developed more by fear than by action. To quote myself, "Tradition in art is to create, not to revive."

Although teaching art may appear to be different from teaching fields using more oral communication, a new tendency towards more laboratory study is growing, and with this a demand for more practitioners as educators. We have learned a parallel conclusion – that the teacher is justified to lead students only if he is and remains a student. Which leads me to my second topic: general education.

It may seem old-fashioned, but I believe that education is adjustment of the individual as a whole to community and society as a whole. As a consequence, education is neither measured nor accomplished by academic standards.

Much education today offers little general education, and much academic teaching has become undemocratic by adhering to a cerebral program of the Middle Ages designed for an elite of selected intellectuals. Among the masses of students today, it slights the manual, the visual, and the auditory type of student, that is, the practical and artistic minded, in favor of a minority of intellectuals.

And this preferred minority too often is handed over to a mere memory training which someone has named "memory acrobatics." I described it in the *Yale Daily News* as the "Information Please" style of teaching, and I had judged it unproductive and uncreative before radio and television displayed a parallel entertainment in the infamous "$64,000 Question" program and consequently disposed of the "educational enlightenment" in mere information.

Mere distribution and accumulation of facts, and many more so-called facts, I consider possessive teaching and learning, challenging memory more than imagination, placing theory before practice, and retrospection before creation, and thus "re-search" before search.

It results too easily in the sale of stereotyped texts and thus ends in printed matter. And by evading the most important development of will and of sensory faculties, it presents a schooling of little or no cultural and social significance.

On the opposite side, in an active and productive education, the student and his development are the first concern. Here the aim is alike for both teacher and student – to discover and unfold ability, to discover and cultivate human relatedness.

Development of active, productive students simply depends on active, productive teachers. This is to remind us that the example, the indirect and unobvious influence, is the strongest means of education, that the unintentional influence of the teacher's being and doing is more effective than many like to believe.

Therefore, we as teachers help develop others best through developing ourselves. In the end all education is self-education. And we as teachers have no right to demand from our students what we are unable or unwilling to do ourselves.

As development means growth, how can we develop others if our own growth is arrested? As growth is the aim and measure of development for the teacher as well as for the student, it is also its excitement and therefore its most effective stimulus. Without it, teaching is only a hard job and sour bread.

And now my main point: All knowledge, theoretical or practical, is deadwood when it does not result in a positive attitude proved by action. That is to say, the development of intention, of will, and of behavior, including the old concept of deportment, is of first importance. Only this is what distinguishes education from information.

Here I feel obliged to quote Whitehead, saying: "A merely well-informed young man is the greatest bore on God's earth."

When I now am reminded of college teaching based on just one hundred books, besides a study of four languages, each in one of the four years, then I must consider Plato fortunate for not having such devices, but developing a philosophy workshop instead.

His example should encourage us to return to philosophical searching, instead of studying the history of philosophy, in order to learn again by seeing and saying something for ourselves and for today (although it has not been printed yet).

The constructive counterbalance to a one-sided reliance on memory and auditory discipleship is practical work. Education, if not divorced from life, needs more laboratory, studio, and workshop training; work in factories, in construction, in farming. It demands direct contact with production and creation. Consequently it recognizes practical work as well as art studies as vital to general education.

The recent proposals of President Brewster of Yale, and the article on the Peace Corps in the March 1965 issue of the *Trinity Alumni Magazine*, justify, I think, repeating here some statements I wrote for Black Mountain College in North Carolina. Although written in the 1940s, they seem more relevant today than twenty years ago.

> Manual work connects directly with reality
> and fulfills actual needs.
> It provides easily the educationally important
> satisfaction of achievement.
> It evokes curiosity for experience, as well as for
> knowledge.
> It connects intellectual and manual work and workers.
> It develops judgment of usefulness and quality
> as well as respect for material and labor,
> and thus improves cultural and social conditions.
> Practical work provides exercise and coordination,
> within ourselves and with others,
> better than any sport can do.
> It teaches us that insight and skill depend on observation
> as well as on thought. And through manual work,
> as through art, we realize that there is,
> besides thinking in logical conclusions,
> "thinking in situations,"
> which is just as necessary as thinking in numbers
> or figures or verbal terms.

Having thus sketched and circumscribed differing as well as contradictory ideas in education, it seems appropriate, as an encouraging reminder, to point at the first cloister schools, with their intellectual training combined with craft and art training – unfolding mind and eyes, plus heart and hands.

Historically seen, the task of education – human development – has remained constant, while responding to the evolution of human mentality, in emphasis and method: in its content, from belief to knowledge; in its attitude, from a spiritual to an intellectual level. In my own terminology it has moved from "actual" facts to "factual" facts, and from human relatedness, submitting to mutual obligations, to forced and exalted individualization if not lawless individualization.

Still, in judging people or periods, movements and institutions, we measure them by their cultural standards and achievements.

Since art remains the basis and measure of culture, any education separated from art is no general education. Also, any art training unrelated to general human development is no education.

But the integration of both general education and art education constitutes comprehensive education.

In my following two lectures, and in my conversations in classes and with groups of students and teachers, I shall try to extend an invitation to such educational amalgamation. To this end I will recommend more visual learning and teaching with the aim of more seeing – seeing in its dual meaning. Permit me to conclude tonight with a quotation by John Ruskin, who said a century ago:

> Hundreds of people can talk for one who can – think,
> but thousands of people can think for one who can – see.

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I. General Education and Art Education: Possessive or Productive. Handwritten, typescript, typescript carbon drafts with handwritten corrections, undated, Box 72, Folder 2, 3, The Papers of Josef and Anni Albers.

## II. One Plus One Equals Three and More: Factual Facts and Actual Facts (1965)

To justify such an heretical title, I begin with the ending of my first lecture here, by quoting John Ruskin once more:

> Hundreds of people can talk for one who can – think,
> but thousands of people can think for one who can – see.

That there is so much more talking than thinking we can see all day every day. That there is so much more thinking than seeing is obvious, not so visible, also not so palatable. To me, Ruskin's axiom sounds like an accusation against – education. And in our days it appears as a justified one.

Ruskin's "seeing" points at vision, which means an inner perception conditioned by imagination. It means the German verb *Schauen* accepted in English as the loan-word *Weltanschauung*. One needs little psychology to realize that seeing as an inner sight is not unconnected with our "outer sight," which is ocular seeing.

An analogy may clarify this:

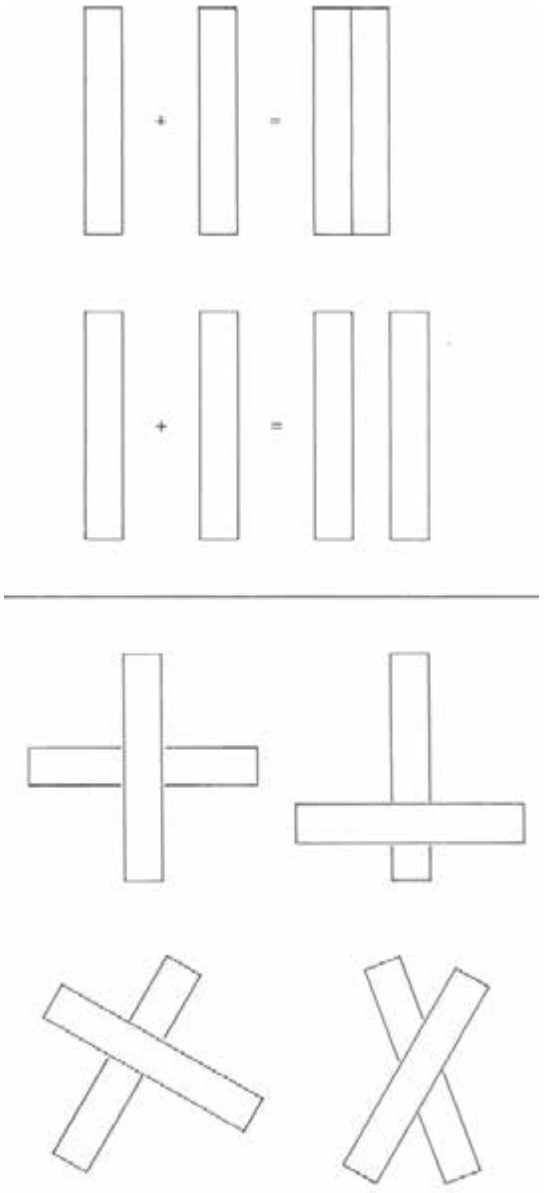
A cow looks at grass, it seems, merely as an edible vegetable. We, usually, see grass first as something predominantly green. A cow does not see green, as most mammals do not visualize color. This may be unknown to you, but at a bullfight the bull is not upset by the redness but by the moving of the cloth. We see grass, normally, not as a plant, but in areas, in quantities of varying and changing greens. We also look at it as a lawn serving as decoration or playground, or as a carpet to walk on, and sometimes not to trespass upon; also as a fur to lie on. And doing this we even may perceive grass as a forest, presupposing that we put our eyes deep enough into it. And the daisies in the meadow we may like as an embellishment, as jewels on a green dress.

With this we are on the way to inner seeing, to imagination and vision, which is moving on a higher level than that of an eater or feeder, namely to the level of the poet, of the artist, that is – on a productive, creative level.

Here I like to recall a discovery of Gestalt psychology, that eighty if not ninety percent of our perception is visual. This makes it clear that our sensory contact with the world is first of all visual, that is, through our eyes. And this contact is going on uninterruptedly all day long, as long as there is light and our eyes remain open.

Obviously, but also unfortunately, this continuous and most intensive connection with the surrounding world is not appropriately recognized in education, which remains predominantly auditory.

The subsequent question is, what is education doing for the development and cultivation of our eyes, the most precious



and most wonderful of our senses? One unfriendly answer is, it spoils our eyes with too many books, with too much printed matter.

After pointing at our ocular reading of the world as our outer seeing, here I give a demonstration of our inner seeing, of an imaginative reading of a meaning, revealing our inner being.

Here I have two equal strips of white cardboard (1" x 6")

(1) Here is one (vertical), here another (also vertical).
Seeing one strip plus one strip, we count two strips:
1 + 1= 2.
We recognize the equal width of the strips.
Now, one width + one width (strips touching) equals two widths:
1 + 1 = 2.
But now, separating them (both remain vertical) by one width –
We count three widths (one of them negative):
1 + 1 = 3.

(2) Of the two vertical strips,
one crosses the other horizontally
in their centers.
Result: two white lines form a crossing
thus producing four arms, as four extensions,
to be read inward as well as outward.
We also see four rectangles, and with some imagination,
four triangles, four squares.
By shifting centers and angles,
arms and the in-between figures become unequal.

(3) All together: one line plus one line
results in many meanings – *Quod erat demonstrandum*.

No mathematician will teach this because this is beyond his field. No banker or housewife is permitted to practice such figuring because both would fail in dangerous ways. Only the artist, the poet, is not forbidden such legerdemain, because it is his concern (as I told you before) to deal with the discrepancy between physical fact and psychic effect. Thus he is expected to cheat us, but in a positive way, to our advantage. And so, only the artist is selling more than we pay for. This leads us to see that we, that men, carry Janus heads with a front and a back face looking in two opposite directions.

For the differentiation of such double if not multiple viewing I suggest a distinction between *factual* facts and *actual* facts – facts "more" or "less" helpful in learning, or facts more educational and less educational. Grass as vegetable is a factual fact; grass as

forest, an actual fact. Or, 1 + 1 = 2 is factual; and 1 + 1 looks like 4 is actual. As a consequence, we should change to saying "factual size" instead of actual size.

I know that philologists are little inclined to accept my new terminology; consequently, and unfortunately, dictionaries and encyclopedias are not up to date. But I am pleased that poets and musicians and actors appear to be on my side: musicians, because they agree that we do not hear music as long as we hear only tones, because music is the in-between of tones; and actors, because it is their job to change identity. Charles Laughton, for instance, acted or represented Henry VIII by giving up his own identity. And I think we may justly conclude that he was able to play today Henry VIII, tomorrow Henry IX, and the next day Henry X. In contrast, Adolphe Menjou, the French movie performer, did not act because he presented always only himself. To me the first case presents actual facts, the latter – factual facts, respectively something presentative and re-presentative, of which the first one appears more productive and creative.

Seen in connection with learning, actual facts are something that remain with us after the non-educational facts, the ballast of factual facts which we are glad to lose after tests and grades and exams are over. Anything just done for school's and teacher's sake is not lasting.

One more explanation: In 1848, a panel of authorities in chemistry agreed that there is no organic compound of inorganic components: in other words, that attempts to change this had proved futile. Only one year later, in 1849, the chemist Boettcher was able to produce urea, a new organic compound.[1]

Since then, the first concept ("impossible") is a factual fact because it is corrected, over and gone. Although it is an historical fact, it is less worth knowing (as being wrong) than the new concept of one year later. And the latter one I call an actual fact because it actuates and therefore is educationally more worth knowing.

Such changes lead me again to think that history should be taught more in reversed direction. So that today becomes again the basis of all references. That our mentality defines the focus for all our vision, forward as much, if not more, than backward.

That today becomes again the center of time as it was in the so-called Golden Ages. That we ourselves are not only an end product of the past but, more important, the start and promise of tomorrow.

Where would we be today in science if science had been led by the history of science? Or, if we would start teaching science (as is done in one college) with reproducing a steam engine every year over and over again in this time of satellites? To apply only one parallel with today's teaching and evaluating of art and philosophy, I ask, what is preferable – philosophy or the history of philosophers? In other words, what would be actual, practicing philosophy in a philosophy workshop, or surveying it with textbooks?

Here, also, a sociological question seems pertinent. Why do we continue to rank administrators higher, socially and economically higher, than producers and creators? I still believe that one Giotto and one Cézanne count more than many Vasaris and Winkelmanns.

Let me end such challenges with this:

A European proverb says that one mother can support seven children but that often seven children cannot support one mother. I have tried to change the retrospective impotence of this proverb with a more human and more productive outlook. I should like to have it read this way: One mother can support seven children, and thus, seven children will support forty-nine grandchildren. Because it is only natural – to look forward – first.

I suppose that most of you remember when the first satellite called Sputnik went up.[2] It was in 1959 or 1960 when our scientists were very upset about our being "behind." I disagree with the emotional reaction of academic circles to the successful launching of the satellite which culminated in a cry for more scientific information, for more mathematics and physics. I disagree because as long as we merely provide more facts, expected only to be applied, we inevitably will continue to remain "behind."

To ease the Sputnik upset, I think that an intensified cultivation of imagination (I call it lubrication of inventiveness) will let us catch up with competition earlier than a rush to accumulate factual facts.

It is this flexible imagination – I call it thinking in situations that turn factual facts into actual facts; that is, working facts – that works in science as well as in art.

This new concept of thinking in situations I see conscientiously practiced so far, although not extensively enough, in basic art teaching and in manual training. Soon it will be recognized more, and demanded more, from studios and workshops to laboratories and factories.

I do agree with a change in study at a well-known institute of technology where educational insight had discovered, already before Sputnik, that just professional training with an addition of some liberal arts was not sufficient; where an essential need had been felt for more flexible, more imaginative minds, in short, a need for more creative training.

In preparatory conferences about possible improvements at that institute, the first recommendations made were for still more theoretical courses and especially retrospective courses. I could help only by proposing in the opposite direction an additional visual-manual training, consisting of basic drawing and basic design, which finally was accepted and organized. And the students of that institute, opposed at the beginning, gave their new training (against their intentions) a most appropriate name, namely "imagineering." I am waiting for more imagineering.

As human mentality changes (some say it reverses itself from generation to generation) educational methods must change accordingly.

Once, at a conference with the Yale University Council, one trustee, a well-known Yale alumnus, reported that in his college years (thirty years ago) teaching was auditory, implying that nothing was wrong with it. I, answering him, mentioned that at the beginning of Yale, the understanding of Latin and Hebrew made one educated. And, more recently, when I joined Yale's faculty, art students were advised to take courses in sociology and economics. This emphasis faded soon, and psychology became popular. Now, after being retired, I am convinced there is no "graduate study" for artists in school but only in a lifetime of practice.

In nature we may intensify growth for larger crops, but seed catalogues inform us that there is little chance for speeding up growth, that is, for quicker growth. Isn't this similar to mental growth?

We should remember that normally there is rehearsing before performance, and practicing before recital, as there are plans and blueprints and estimates before construction.

As thinking must precede talking, great works rarely happen – unprepared.

For those fashionable artists who believe in accidents, Pasteur has given an answer: In research, chance only helps those whose minds are well prepared for it. Is that different from art?

Genius – that double-faced insight into our means and into ourselves – is still ninety-nine percent perspiration and one percent inspiration.

Now I feel obliged to give you a non-retrospective example of art by talking about the latest trend, namely "Op" Art. And as it exists, so far, mainly on the painting side, it gives me the welcome opportunity to present to you color, its most basic and now most engaging medium and aim.

And this the more, because it demonstrates easily and most convincingly that art stems from a discrepancy between physical fact and psychic effect, as I have pointed out before. Also, to emphasize again – actual facts versus factual facts. And this, simply by showing how to make, for instance, one and the same color look like two different ones, two colors look like three, and three colors like four; also in the opposite direction, three colors like two or one, etc.; further, how to make opaque colors look transparent, or cool colors look warm, etc.

Before proving this by slides – mostly of color studies by my students – first a brief clarification of the incorrect and misleading name "Op" Art.

Semantically it is a hybrid as a mixture from two polar fields, natural science and psychology. In all visual perception, the initial reaction is optical. As an explanation, it will happen tonight, again and again, first with every slide, on the way from the projector to the screen; and second, from the screen here on the stage to our eyes. Light rays coming from an object are projected through a lens (either in the projector or in our eye) upon a screen which in our eye is concave, semi-spherical (and therefore most precise), and is called the retina.

Up to here, including the retinal projection, we are dealing with optics. That is with physical facts only. And we distinguish this part of our perception as "pre-retinal." But more important for us is what happens beyond the retina, in our mind, which is "post-retinal." Because only there occur such important changes (reactions, results) as, for instance, that gentlemen prefer blondes.

Therefore, if "optical art" denotes an emphasis on the less important side of our perception, then the name "optical painting" is worse, because it is just as senseless as "acoustic singing" and "haptic modeling." (Haptics, the psychological term for the sensation of touch.) It is redundant as water swimming, and foot walking, or as wood carpentering and – color painting. Here I should not forget to remark that any or all understanding of acoustics does not make us musical, either on the productive or the appreciative side. Something equal is true with regard to optics and vision, as with haptics and vision.

It follows that another new term "retinal art" is still more misleading ("optical illusion" should be replaced with "optical deception"). More correct is my first term, namely "perceptual painting," but a four-syllable word cannot compete with a one-syllable name, "Op." Another true name, but still longer, is a gallery's term: "abstract *trompe l'oeil*" (fooling the eye).

Anyway, perceptual art is no revival. It is fortunately nothing "neo." After Neo-Gothic, Neoclassic, or the 19th-century revivals, more recently we had Neo-Impressionism, Neo-Surrealism, Neo-Dadaism. All this reveals that "neo" means something past but warmed up again.

In contrast, perceptual art is something new because of its sudden recognition just now as a new way of seeing and showing. But factually, it is not this new, as it has been cultivated, particularly in this country, for the last thirty years.

Our color studies present a basic training, meaning an essential training. They aim mainly at the development of a sensitive eye for color. Therefore, our aim is first, not "some knowledge about color" which color systems and color theories provide and which are thought "to be applied."

Instead we experience first, and continually, that we do not in fact visualize what a color really is, what it physically is, what it optically is.

And this we learn emphatically independent of retrospective information, and without immediate expression in color – by producing mainly specific color effects in obligatory class exercises.

In order to demonstrate our way of study, I projected about one hundred slides showing color exercises done almost exclusively by my students. As spoken comments on slide illustrations do not

Fig. 1A
1 = 2 In this study, both center colors are precisely the same color. However, being unable to actually see this, we demonstrate clearly, with colors, that we rarely see what we see

Fig. 1B
2 = 1 An excellent study which shows how to make two colors, seen at the bottom as different in hue and light, appear in the center of the two large areas of color to be alike

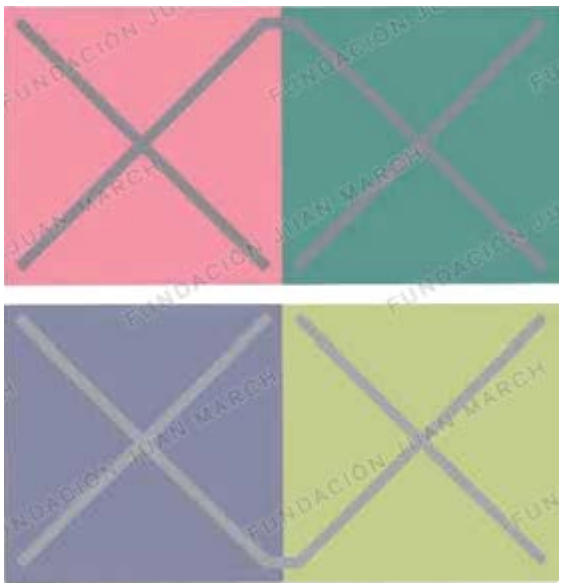


Fig. 2
3 = 2 One color, placed equally on two grounds of different colors loses its identity entirely, and not only appears as two colors but repeats at the same time the colors of the adjacent grounds

provide text to be read, I must present the problems involved more verbally than visually.

In a first group of slides, I showed samples of color interaction justifying our saying "we do not see what we see." I showed that one and the same color placed on contrasting grounds – contrasting in hue and in light – looks like two different colors (in other words, three colors appear as four!) [see fig. 1].

It is even more surprising to see that the two different appearances of one and the same color can repeat the color of the reciprocal grounds (which means that three colors look like two!). But it is most exciting to prove – through color subtraction – that two different colors can appear alike (that is, four colors look like two!). This should convince us that color perpetually changes and therefore has innumerable faces. All this means more than entertaining surprises. It is an incentive to turn passive deception into enlightening experience and creative action [see fig. 1–3].

Almost all our color exercises are done in colored paper, not in paints. First, colored paper permits a repeated use of precisely the same color nuance. Second, it avoids endless and discouraging paint mixing which rarely provides precise matching, or even surfaces and even edges. Also, paper permits simple and clean work, with a razorblade and paste (rubber cement) as the only accessories.

Because paper does not allow mechanical mixtures, as pigments do, we try to study color mixture more creatively in our imagination. By searching for possible and conceivable color mixtures with closed eyes – another case of "thinking in situations" – we gain an additional color illusion, namely of transparence or translucence, within opaque colors. We also learn to differentiate between mixture parents and between mixtures of varying dominance. We also learn to recognize the stimulating middle mixture because of its changing look, its double face [see fig. 5–6].

With this we arrive at spatial color effects resulting from illusionary mixtures, and further members of the continuous chain of exciting but still more sensitizing color deceptions.

As any color presents a mixture of varying color and light intensities, and as any measure presupposes comparison, the students are made aware, by special tests, that even trained eyes are often unable to distinguish a lighter from a darker tone, and that so-called equal values in painting are almost non-existent.

Thus in order to evaluate both color and light qualities, we develop besides gradation studies (comparable to scale exercises in music), transformation studies (related to musical interval exercises). And both studies are done, for an intensified training, again not in paint but in paper.

Gray scales, as ladders between black and white, are done as collages from scrap, torn or cut from half-tone illustrations

Fig. 3
Bezold effect. Replacing the black on the left with white on the right produces the effect of making all the colors on the right appear lighter than the colors on the left

Fig. 4A
A gray scale of 17 steps is accomplished by 2 high triangles of which the upper appears darker and the lower lighter. The upper one also turns lighter downwards, whereas the lower one is getting darker upwards. Nobody is able to see the triangles as they factually are, namely of an even middle gray. To prove this, cover the steps between the triangles

Fig. 4B
This gradation study from dark gray to light gray is done with small pieces of printed half tone areas collected from black and white magazine pictures. In order to achieve the smallest steps possible, the pieces of half-tone grays are most carefully assembled, arranged, and pasted.
The horizontal arm of the uncovered cross shows that the entire cross as well as the surrounding frame are of one even middle gray, although we see it increasingly lighter toward the top, and darkening toward the bottom. As a result of this deception the upper and lower boundaries mark a clear separation, whereas the boundaries in the middle almost vanish, especially when seen at some distance

from magazines. Transformation exercises aim at the repetition of certain light or color relationships (usually of four colors) in higher or lower keys of light or color. The final proof of a precise transformation, measured to a great extent by the distinctness of the color boundaries, becomes obvious through exchanging the central area of the original combination for the central area of the derived combination [see fig. 4].

In connection with gradation scales, we analyze color mixtures according to the proportions of their constituents. By producing both physically arithmetic and physically geometric progressions in color mixture, we become aware again of the discrepancy between physical facts and their visual, perceptual effect.

By comparing the technically arithmetic progression of gray scales as recommended by M. E. Chevreul (known and practiced now for more than one hundred years) with the technically geometric progression of the Weber-Fechner law, we come to the surprising proof that only the latter is perceptually right. This means that in color mixture a physically geometric progression alone results in any scale, visually arithmetic. The problem of proportion in color mixture leads to proportion in color juxtaposition.

Not accepting that harmony is the final aim of all color, and not submitting to the theory that certain constellations within the system of a color wheel or a color solid provide harmony, we believe that any combination of colors in discord as well as concord, can produce aesthetic experience, provided that their quantities – the amounts applied – are properly related. And for that, fortunately, there are no final rules so long as color appreciation depends on preference and expectation.

Thus it seems safe to assume that any color suits any other color or colors, as long as their quantities provide relatedness. Here quantity can mean either size (area, extension) or number (repetition, recurrence), or both.

In our quantity exercises we develop color combinations, first without, then with dominance of one color. We demonstrate also that within a given set of colors a change of dominance alters the whole color climate or color instrumentation. Color perception and particularly its associations easily lead to emotional reactions. It seems, therefore, normal and natural to prefer certain colors to others. But as preference and prejudice hinder a just evaluation, we encourage an impartial dealing with both our likes and dislikes among colors. Often enough this turns aversion into sympathy.

After our studies of the changing appearance of a color and its relatedness to neighboring colors, the boundaries between them become an essential measure for their interaction.

The new art term “hard-edge painting,” used in art criticism to segregate geometric abstraction from “informal” or “action”

Fig. 5
In order to clarify the topographic placements of the mixtures, see the 3 parallel lines beneath each study. They present a ground plan defining overlapping and overlapped

Fig. 6
An unusually precise study: mixtures of red and yellow in 9 equal intervals. Best reading when increase of light leads upwards

abstraction, reveals only the incompetence of its inventors. They should know better from the masters' examples.

To this end here are some details on Cézanne's color articulation, or maybe better, on his color punctuation. The way he differentiates the boundaries or edges of his colors seems still unknown, or worse, possibly unrecognized. His paints mostly applied in flat areas have many kinds of endings. They are hard and firm and fat, as well as loose and lean and weightless. And they both connect and separate by means of harsh linear brush strokes as part or full contours, and through crevices of canvas or of sizing. All this, to give his color planes directions varying from frontal to lateral positions or attitudes.

To present two more new and little-known color endings, we produce vibrating and vanishing boundaries. The vibrating ones are halo-like contours glowing in several and changing colors, often undefinable as to their hues. They also may look burning or evaporating, and therefore have an uneasy effect on our eyes.

In contrast to such unpleasing emphasis, vanishing boundaries, as their name indicates, appear as something unusually discreet and even secretive, often barely recognizable. They exist only between analogous colors (neighboring hues) of equal or nearly equal light intensity – an almost non-existent phenomenon.

As such studies concentrating on given color effects are obligatory class exercises, visitors to our class have expressed fear that such training might hinder personal growth and breed only disciples of schools and/or teachers.

Just the contrary is true, because the intensive exposure to many more colors than any palette or palettes can offer, and then the constant comparison of different solutions with costudents, as well as mutual discussions by students and teachers, are more stimulating than personal freedom in the midst of unconnected, unrelated self-expression.

Along with the exercises mentioned, there are our "free studies" done also in color papers, but as homework and independent of class problems. Particularly those done in the fall with pressed autumn leaves and those in which the whole class submits to a given combination of three or four paper colors definitely prove that class exercises reveal and demonstrate constitutional differences among students more than any forced personal expression and certainly more than any printed assurance of individual guidance or advice in school catalogues.

Most exciting and equally demonstrative are studies, preferably in torn colored paper, after modern and old master paintings, which present analyses of their color instrumentation.

And only after finishing our systematic study of color effects do we present briefly some influential color systems, such as those by Munsell and Ostwald, and recommend their essential merits for further investigation, i.e. outside of class.

And all I have told you in this lecture is only to remind you to accept Ruskin's invitation: Learn to see.

1. Actually, urea was first synthesized in 1828 by Friedrich Wöhler. The discovery was important insofar as urea was the first organic compound to be synthesized from wholly inorganic starting materials, showing that organic chemicals could be produced through chemistry and dealing a severe blow to the prevailing "vitalist" belief. — Ed.
2. The Soviet Union successfully launched Sputnik I on October 4, 1957, precipitating the American Sputnik crisis that triggered the Space Race. — Ed.

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II. One Plus One Equals Three and More: Factual Facts and Actual Facts. Handwritten early drafts; typescript carbon intermediate draft with handwritten corrections, typescript mimeograph fragments with handwritten corrections, Box 72, Folders 4–5, 6, 7, The Papers of Josef and Anni Albers.

## III. Art Studies as Basic Training: Observation and Articulation (1965)

Apparently only the Constitution of our country presents the "pursuit of happiness" as a guiding concept and aim. Let us see not only the social and ethical implications of such human challenge, but also its educational consequences.

The first natural human urge to be occupied, followed by a still stronger and higher need to be productive and useful and therefore wanted, supports my belief that normally everyone is endowed with special gifts, if not talents. To discover that "doing something" elates more than "knowing something" indicates another step toward happiness because it is a step toward self-respect.

This again recommends, in learning and teaching, a shift of emphasis to more practical studies in workshops and laboratories and studios. The fact that we have at Trinity College now a new "art center" instead of a new "art building" signifies a new trend of our time, born out of a need of our time.

In my first talk here, I showed my special interest in basic studies and my belief that, especially on an advanced level, studies in art, like studies in philosophy, mean basic investigation. Thus, "basic" has acquired another connotation besides "introductory." It means something fundamental instead of elementary, a broadening of ground by connecting neighboring fields and interests.

Of those basic studies in art which I was instrumental in developing, basic design was the dominating interest of my teaching at the Bauhaus in Germany from 1923 to 1933.

During the following twenty-seven years of teaching on this side of the Atlantic, I developed, independently of those abroad, a basic teaching of color, and, especially at Yale, a new teaching of drawing. And before retiring, I taught basic design again as "Structural Organization" in the Department of Architecture.

And it was most rewarding during my ten years at Yale that many graduate students from various fields of study – and on their own initiative – enrolled in basic art courses officially assigned to beginners.

Last night, in my second talk here, on "One Plus One Equals Three and More" and "Factual Facts versus Actual Facts" [sic], it seemed appropriate to start with color as the most relative, that is, illusionary, medium in art, and to describe how we tried to handle and to study it.

Tonight I should like to show you, again along with numerous slides of students' work, our training in basic drawing and basic design.

## Drawing as graphic idiom

Its main characteristics: First, it is not a life class, and is therefore without nudes; second, without easels, large paper, or charcoal, but with small-sized pads for all alike, containing simple newsprint paper, and at the beginning only pointed pencils. All this for a thorough training in drawing, that is, in the graphic craft of delineation. Through learning, first, a clear linear visualization, and second, a precise articulation, we try to develop observing eyes, understanding minds, and controlled hands, and only indirectly, art.

As thinking comes before speaking, so seeing comes before drawing, or, more specifically, visualizing must precede any delineation to come. Thus we draw first in the air, again and again. Then we draw above the paper, also again and again, and with closed eyes, before touching the paper, in order to gain motor control. And we do repeatedly the same drawing on the same paper, each covering the other, filling the paper from edge to edge; and sometimes also in red over black, or ink over pencil.

In producing likeness through repeating and even multiplying simple directions and elemental shapes, we feel soon a readiness of hands and arms to support our visualizing of form. We experience that our motor sense often leads us more safely than our eyes, particularly in perceiving directions. By means of this we recognize a similarity of drawing to shooting a gun where aiming with hand and arm sometimes very successfully replaces aiming by eye.

Utilizing this same process, we reverse lines and shapes of different directions (straight and curved), such as letters (calligraphic and constructed) around axes (first vertical, then horizontal, and oblique). Then, we give such two-dimensional shapes three-dimensional volume (standing, leaning, lying) seen from below and above, or sideways. All this for the sake of flexible imagination – "thinking in situations."

Again, it is "repeating and reversing" that constitutes training, here as elsewhere. And intensity of study outweighs easily, and profitably, its length of time.

It seems worthwhile to recognize how much of our handwriting is visualized (seen, or perceived) form-giving, or habitual (mechanical) execution. So we try to write our signature (and other word pictures) normally (that is, to the right), then backward (reversed to the left), and also both ways, upside down (all together in four opposite directions). We often find out that such tasks are easier to do with closed eyes, when we seem to follow movement more easily than form.

We discover that both arms and hands together automatically and simultaneously produce nearly precise reversed symmetries of movements in line vertically up or down. However, why not equally well and easily in a horizontal direction?

After such manifold exercises in straight and curved lines, we concentrate, usually for weeks, on ellipses as foreshortened circles. Although normally three dimensions are perceived earlier and more easily than two dimensions, here we begin with ellipses as flat shapes as such. We do this in order to utilize again the motor sense, our sense of direction, to "lubricate" first hands then arms properly for making precise curves.

Beginning, as before, in the air (on an imaginary frontal plane), and then above the paper horizontally (also "blind") we can't help but "see" our linear shapes before they appear on paper. So, we visualize them first and then execute them as defined by their long axes, in horizontal, then vertical and oblique directions.

We execute them first in symmetrical halves and only later in one swing in one continuous line, but always feeling the motor sense's lead. We draw ellipses small, after drawing them large; fat and slender, heavy and light. And all on top of each other, until they disappear in a cloud of graphite. After that, many pages, each filled with only one kind of ellipse.

When our hands feel prepared to make flat ellipses wide and narrow, and both in many sizes, repeated observation sessions will follow for a study of ellipses now presenting foreshortened circles in space. This includes a systematic analysis of their three-dimensional (geometric) condition, and its related optical registration (ocular projection).

Starting with a horizontal ring, we first see that it reduces visually to just a straight line on eye level. By lowering that horizontal ring gradually, and by drawing it (in the air) as it slowly steps down, we recognize a gradual increase of roundness in the corresponding ellipses.

When it arrives at its lowest position, on the floor, there is a large circle drawn in white chalk, so that the whole class can walk around it. During this walk we draw that circle continually in the air and can't overlook that the drawn ellipses remain in all views equally horizontal, that consequently all axes move the same way we do.

Observing then horizontal circles above eye level, we will come to similar experiences. And with a ring above us (if possible, on the ceiling), we emphasize especially that all long axes of the ellipses remain horizontal from whatever side we look at it.

A similar class exploration of ellipses as foreshortened circles, but this time of vertical circles, offers many more surprising and difficult problems which are too extensive as well as too subtle to be described here verbally. In class we leave this study – but initially only – to preparatory private investigations.

## Ellipses on round solids

In studying horizontal ellipses on three-dimensional objects, we begin with flowerpots and cylindrical drinking glasses. We progress from the strictly linear edge of the bottom of an upside-down flowerpot or the almost linear brim of the opening of a thin glass, to the solidly rounded edge of the opening of an upright flowerpot (or of similar containers in clay). From such thick brims as that of a milk bottle we learn to distinguish graphically edge lines and transition lines. This is done first to cultivate strictly linear drawing before turning to a modulation through shading.

By comparing cylindrical and conical solids, we come to realize that with cylinders we see normally just half of the convex side plane, called the jacket or casing.

But with cones, also truncated ones, when below eye-level, we see more than half of the jacket; above eye level, we see less than half the jacket. It should be interesting to find out by ourselves why this is so.

As to the lines defining the convex jacket (parallel in the case of a cylinder, but converging on a cone), we must recognize that such lines factually do not exist. Even a slight sideward motion of our heads will place one outline farther and the other nearer. Therefore, such lines are illusional (in our terms: post-retinal). They are a summation of endpoints of imaginary ellipses subdividing the jacket horizontally. Again, such immaterial lines we call transition lines.

Imagine horizontal circles drawn through the gradation marks of a chemist's cylindrical glass scale. These equidistant circles, compared from above as ellipses, appear increasingly rounded as we go downward because the short vertical axis of the ellipses becomes larger, whereas the long (horizontal) axis remains the same as the width of the glass scale. It should be noticed also that all ellipses merge without demarcation. A corner between them would indicate an actual crease in the jacket.

Clear understanding and precise observation will correct a common erroneous concept: horizontal circular shapes below or above eye level are optically – and without exception – horizontal. Although they may look rounder or flatter, they never appear in a slanting position.

## The meander

Before leaving our beginning exercises in hard pencil with its evenly thin lines, we provide another example of visual and technical training in graphic disposition. To dispose means here to visualize measured lines precisely before putting them down on paper, avoiding corrective erasure as much as possible. This is to demonstrate a disciplined or, if you prefer, a precise adjustment to a structured order of lines – which also is to pay reverence to an ornament older than history.

Because of its name "Greek Key," or "meander" (the name of a winding Greek river), it is considered of Greek origin. Factually we find it all over the world, revered in almost all cultures, East and West, very early and late. But nowhere has it been cultivated more through all periods than by the Amerindians from the most northern Tlingits to the most southern Araucanians, in building, sculpture, painting, and particularly in weaving and pottery.

The meander deserves our special attention because it teaches us both basic drawing and basic design. As design it presents a linear organization at the same time very intricate and very simple. Intricate because of its figure-ground relatedness, in which figure and ground are simultaneously and alternately theme and accompaniment, thus guiding and following each other. Simple, when we discover that the underlying unit measures an alternating decrease and increase in the extension of the lines.

Simple, also, because of its utmost economy of means and form: Virtually only one line is done; but the adjacent ground, accompanying its movement, transforms its one voice into two, three, and more voices and echoes.

With this measure it is relatively easy to produce any of the many meanders possible, all of an exciting rhythmical movement, starting either up or down, left or right, as lines and bands. And for a complete control of our hand, we draw this exactly from the left edge to the right edge of the paper, and opposite. But it is necessary first to find the underlying unit and the alternatingly increasing and diminishing order of its application.

## Modulated lines

To achieve a true linear articulation, we have used so far hard pencils which permit little or no modulation within a line. By changing to soft pencils, we introduce varying blacks, that is, perceptually deeper and higher blacks within a line. For a sensitive control of the hands, we concentrate first on producing a gradual increase or decrease of blackness, by applying the soft pencil first with slowly increasing pressure, and alternately, with slowly decreasing pressure. We may then think or feel that we are riding up and down the waves.

Drawing then, in a shivering motion, short horizontal lines tight together, and, at the same time, moving the drawing hand down the paper, we produce bands or ribbons, waving in two directions like a series of hourglasses, and in two dimensions. As a "factual fact" they move sideways in and out – within two dimensions. But more excitingly, they move also fore and back in an illusion of three dimensions, demonstrating an "actual fact."

Placing several such ribbons sideways tight together results in an alternating rhythm of an illusionary up and down, of light and shade, and of over and under, thus suggesting interlocking movements of textile structure, or more precisely, basket weaving.

Trying then to curve such bands or ribbons graphically, also without the use of heavier and lighter black, brings us back to hard pencil lines. We discover that by alternately narrowing and widening the space between equally thin lines, we produce an illusionary deeper and higher or fuller and thinner blackness of the lines resulting in a similar effect, although an illusion. The latter way of articulating bent and curved planes we consider the engineer's method, and the former way described, as the painter's method.

## Edge line and transition line

These two terms, although little known, present an essential distinction between what we call factual lines and actual lines. They distinguish physically existing lines (as edges of three-dimensional volumes, or as boundaries or contours of two-dimensional shapes) from physically non-existing illusionary lines appearing only in perceptional projection (on rounded three-dimensional volumes).

Whereas the first ones must be considered stable (as fixed in their place), the latter ones are mobile (as changing their position with every change of our viewpoint).

Whereas edge lines are typical for edged geometrical solids and crystalline forms (for cubes, prisms, pyramids, etc.), transition lines characterize globular and tubular volumes (spheres, ellipsoids, and the like) and certain parts (that is, the bent planes, called jackets) of cylindrical and conical solids. For further clarification, a comparison of mechanical and organic product form, of crystalline and cellular form, may be helpful.

Because transition lines are less obvious than edge lines, particularly in regard to the topography of their placement, in their beginning or ending and their connection and separation, or overlapping, a nude figure is the least appropriate object for any beginning studies in representative delineation.

In figure drawing, experience has taught us that for methodical reasons a beginning with the draped figure is much easier, and thus more appropriate, than a start with the drawing of nudes. Thus we begin figure drawing with a drawing of jackets and coats, hanging on coat hangers and hooks, hanging over chairs or easels, then hanging over shoulders. This emphasizes again our step-by-step learning, which enables everybody to follow and to participate.

For an introductory study of edge and transition lines in pliable material (textiles) we present on the walls of our drawing studio huge undulated paper arrangements made from large sheets of wrapping paper (cut from more than three-foot high rolls).

Here we are presented with a clear separation of edge and transition lines. The former are the real paper edges usually curled, and waving or spiraled; between these opposite endings or limits, there are all the normally straight transition lines, mostly of a lighter and softer look than the paper edges.

## Figure drawing

As our first concern is the dressed figure, our models are simply class members. This offers very practical advantages: a continual variety of types, postures, movements. And these, to provide comparisons, can be easily switched at any time or combined into small and larger groups, clarifying differences and similarities.

Preparatory anatomic studies of the human body and/or of the skeleton (for figure drawing) and of the skull (for portrait drawing) we consider unnecessary. Even without them, it will be easy to explain, for example, that in front views a skeleton appears widest in the shoulder, whereas a figure may look widest at the hips, or that our neck presents a twisted truncated cone, looking broad at the bottom when seen *en face*, but broad at the top when seen in profile.

In our first scribbling of figures, we concentrate on heads and limbs, and sometimes also torsos, as plastic volumes. We try to emphasize and visualize the egg-shape roundness of a head and the tubular sausage-like forms of arms and legs, and forget for a while the complications of hands and feet and faces. Thus we become aware that we are following the practice of masters like Rembrandt, and even Raphael, who prepared his most selected final line with indications in scribbling.

After such elemental introduction, figure drawing is practiced repeatedly during our basic drawing course, which lasts two semesters and meets in two-hour sessions twice or three times weekly. Although regular, it is not a dominant feature of the course.

As we draw mostly from objects – also when working from memory – the diversity of our models shows the range of our interest and training. Among growing things we draw twigs, first without leaves, concentrating on their structural and rhythmical order.

From flowers we select those with a clear sculptural appearance, like daffodils.

Among man-made objects we study and draw for a while tables and table horses, stools and chairs, and similar furniture. As we concentrate on making the directions of straight lines optically correct, particularly when slanting or vanishing, we draw from a chair, for example, only the empty shapes appearing between the wood or metal members of this chair, yet in such a way that the chair is clearly recognizable.

More figure-related models are hats and shoes and gloves and, for advanced ambitions, skulls and bones. Most challenging and instructive are tools, such as hammers, pliers, scissors, and the like. And for a more precise visual articulation, we favor umbrellas and bicycles.

## Foreshortened curves of spandrels

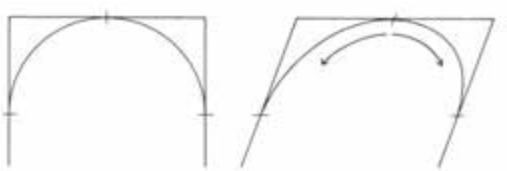
"Spandrel" is the architect's term for the irregular triangular space between the curve of an arch and the right angle enclosing it. Spandrels are typical of Basilica and Romanesque architecture. We make a special study of them in order to understand and to draw mathematically coordinated curves.

Although we rarely will encounter distorted spandrels in architecture, we deal with them constantly when reading italics in letter printing, when we are exposed to curves in the letters B and P or O, C, and G, both minuscule as well as majuscule.

Naturally, the rectangles of such spandrels are perceived in their full measure of 90º only in a frontal view when the arch can be seen as two equal quarters of a circle (though reversed). In any side view of such arches, both angles and curves will change reciprocally, increasing on the one side, decreasing on the other.

Then the two enclosing rectangles turn perceptually into an acute and a corresponding obtuse angle – corresponding because normally they sustain the relationship of the two initial right angles which add up to 180º. This means that a reduction of the 90º on the acute side appears balanced by an equal increase on the obtuse side. Furthermore, they correspond because the curves turn more pointed within the acute angle and more flat within the obtuse angle.

It is easy to visualize this correspondence between those angles, but it requires manual training to recognize equally related curves. In order to develop a competent eye for such distorted but related curves, we present the following exercises:

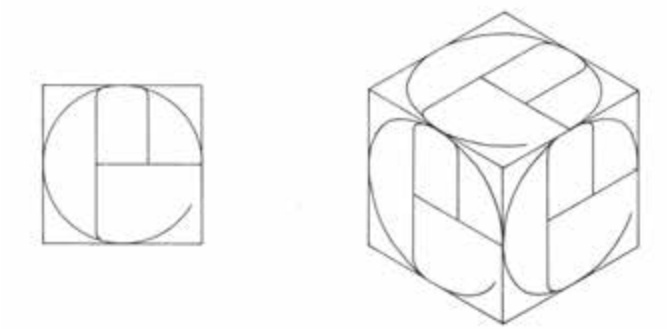


First, in freehand, we draw half-circular arches in rectangles and then transfer angles and curves into somewhat similar parallelograms which we consider "sideward-leaning" oblongs.

When trying first to make corresponding left and right spandrels within the parallelogram, initially the flattened curve (the left spandrel) will be too flat and the pointed curve (the right spandrel) not pointed enough, with the result that the contents of the spandrels are too unlike. Drawing the curves anew –from the apex of the arch – leftward and rightward, and forcing eye and hand toward a still flatter curve and an extra pointed curve, we will approach slowly a visually convincing result. (We may mention that an automobile curving within these angles would make absolutely unrelated curves.)

To demonstrate the varying distance between a curve and its vertical line, we use connecting small horizontals placed at equal levels. To compare the areas within the spandrels we fill them in.

For a further training in spatial distortion of curves we draw first an isometric cube with a frontal square. After filling the square tightly with a minuscule letter "e," we fit the same letter equally into the adjacent parallelograms. We chose the small "e" as it provides three and a half large spandrels and three small ones inside the letter. For a clear and simple construction we prefer the Bodoni type, which permits two equal horizontal divisions and three equal vertical divisions.



An assemblage of such multiplied and connected cubes with letters provides, besides an unusual spatial effect, a helpful visual training in reciprocal angles and curves.

In doing this it will become obvious that opposite spandrels are alike in quality and quantity (that is, shape and area), but neighboring spandrels are alike only in quantity (area).

For advanced ambitions, we suggest drawing labels of square and rhomboidal, and circular and elliptical shape, as they may appear around cylindrical containers like bottles and cans.

## *Matière* in drawing

The French art term *matière* stands for more than its English translations "matter" or "material" because it indicates appearance, that is, "look" and "feeling"; it means both less and more than our "texture" which will be further defined later under "design."

Our *matière* drawing, therefore, is not to represent a minute factual report on an individual piece of material, but aims at a typical presentation of a material's usual look. In other words we try to find out by which means or tool (e.g., hard or soft pencil) and by which manual performance (e.g., staccato or legato) we will be able to produce an unmistakable graphic articulation, let's say, of splintery woodblocks for the fireplace, of sponge or bread, of moss or grass, of textile like tweed and corduroy, or of fur.

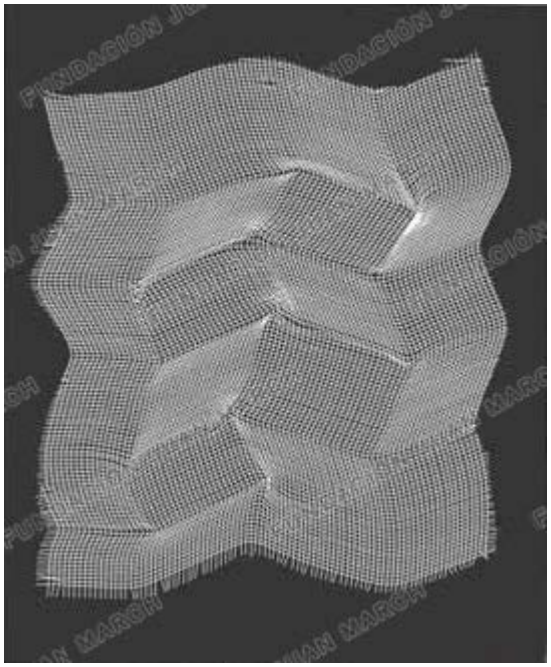
A special feature of our *matière* drawing – the newspapers would call it an "exclusive" – is the graphic presentation of newsprint. As the result of a surface treatment of paper, namely the printing of inked letters, we classify newsprint with our *matière* term a "facture," under the name of "typofacture." The task is to draw the look of a typical newspaper's text page which presents only written information without pictorial inserts or other illustrative content.

Although such a page consists, apart from its vertical column lines, exclusively of letters, we do not visualize them singly as such. Instead, we notice them bundled into word groups, visually the basic unit of a text line.

So, we try to scribble word groups, short and longer, as parts of such equally high text lines. And when we feel our hands steady enough to repeat them somewhat alike, then we try to arrange them equally long and equidistant into parts of a column. All of this is done freehand, with only the column lines (vertical and also equidistant) drawn with the help of a ruler.

When doing such typofacture lines for the first time, as a rule, we all overestimate the quantity of white (of the paper) in between and within the black text lines. And it takes quite an effort to tighten and condense those lines, to make the black convincingly dominant, as well as an even "pearling" black. And all this within the strictly horizontal-vertical order of letter printing.

Again, we are exposed to the educational insight that it takes training and thus time to make the eye recognize such proportion and placement, and the hand steady for the proper handling of the pencil. Thus, drawing demands skills as handicraft does, and much more so than our studies of color and design do.



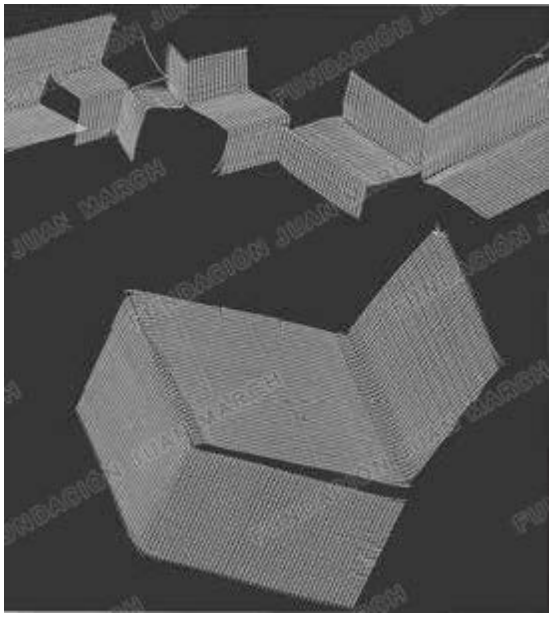


Fig. 7
We like to present extensively wire screening as a material for re-arrangements because, like printing and weaving, it is based on a vertical-horizontal order. This order is emphatically flat and our study in its re-arrangement aims at spatial effects without changing its flatness. A first study is presented here: cutting and bending so that it is impossible to read anything but the illusion of volume. (To prove its flatness, we mention that the studies here are contact prints of the actual studies)

## Design as visual organization

Let me start with a condensed statement I wrote some years ago for the *Yale Alumni Magazine*:

To design is
to plan and organize,
to order, to relate
and to control

In short it embraces
all means opposing
disorder and accident

Therefore it signifies
a human need
and qualifies man's
thinking and doing

Consequently,
a school of design
is not first an opportunity
to express oneself

It is an educational area
to teach systematically
and to learn step by step
– through practical work
and thus through experience –
observation and articulation

Our department of design
therefore promotes particularly
basic studies:

Basic Design and Basic Drawing,
Basic Color and Basic Sculpture,
also Lettering and Drafting
as required training
for specialized studies:

in drawing and painting
in graphic design and photography
in typography and printmaking
elemental and structural sculpture

The success of such a program
obviously depends
on dedicated teaching

directed by love besides method
and on devoted students
encouraged by the excitement
of growth of vision.

At an annual designers' conference a few months later, I read only the first three stanzas of this statement and made the following comments:

With this, I point at design as an emphatic human affair and at its concern with quality and selection, and consequently at its ethical implications.

Therefore I do not accept the much-posted slogan "Design is everywhere." Of course, nature presents order, and surely relationship; but only nature's order – although an admirable order.

I believe that it is human control, or if you prefer, human interference with nature, that converts earth and water – and their yield – into design.

It is human imagination, creativeness, that transforms nature's products into containers and tools, to name just two categories of designer products which answer human needs.

This brings us to factors upon which design depends, the conditions of design. It is not primarily tradition, as the retrospective 19th century has tried to make us believe. (I have given my own answer to this in the first lecture.) Nor is it economic conditions which for too long were used to explain human action, from war to peace – and even art. It is easy to prove false, for instance, Marx's historical assertion that art depends on wealth. Slowly we have learned that human development – parallel to human mentality – depends first on psychological conditions; that human action is motivated more by preference and aversion, than by possession, whether unequal or equal possession; and that equality among human beings does not and will not exist physically or mentally.

The leading principle of teaching basic design is no mere application of so-called design principles. Again, our aim, as in our color course, is discovery and invention, the criteria of creativeness.

Thus, as in the teaching of engineering, the evaluation of our studies is based upon the ratio of effort to effect. Furthermore, three-dimensional studies precede two-dimensional studies (contrary to the practice of many schools) because three-dimensional perception comes earlier, and is also easier than two-dimensional perception, as Gestalt psychology confirms.

Again, we do not start with retrospection or the ambition to illustrate, to embellish or to express something. Similarly, we do not think of producing useful objects right away.

We begin with the beginning, which is (and has been in all essential production) the material itself. We prefer to start with materials of apparently limited application (such as paper), or material of little known or new possibilities (like wire), and even search for possibilities of easily accessible end products; e.g., matches, razor blades, or metal screen [see fig. 7].

This offers us the opportunity to manipulate our media directly, not restricted by introductory explanations, theories or aims – including preparatory "class readings."

The initial results of such dilettantish tinkering normally are not very exciting. But when assembled for a classroom evaluation, they invite comparison not only with each other, but indirectly also with their producers. Such trials encourage the exploration of the various directions of study which are thus analyzed, and often reveal possibilities worth further investigation, development, or articulation, all leading to competitive learning.

To guide such evaluation needs discriminating eyes which, initially, may be the teacher's eyes. But with his skillful direction, gradually the class members are challenged to select and judge on their own which leads to a preference for large classes rather than small ones.

Studies revealing a material's capacity (its physical-mechanical qualities) will lead naturally to structural organization – to studies of montage. Recognition of a material's surface qualities, that is, visual or tactile (haptic) appearance, will evoke combination exercises – assemblage or collage.

As to montage: It refers to an end phase of composition in construction, in building. Normally it connects technically related materials, or parts, or formally related shapes. Later, we like to study typical wood joints – dovetailing, mitering, tongue-and-groove, and so on – as structural contrasts to gluing or nailing and screwing (in the worst case into cross grain). Thus we stimulate a trial-and-error approach even though it may often result in poor or bad joints, to show that we are not afraid of detours in learning – for the sake of flexible amateur exploration.

By practicing such explorations we come to compare materials. We discover similarities and differences between paper, cardboard, corrugated paper, and clothes; or between foils and tins. We will find boundaries of physical capacities, but also possibilities for trespassing them by means of illusion.

Clay, for instance, by its doughy consistency, is not a preparatory medium for developing wood, stone, and metal form. Such misuses have misled sculptors for centuries (apparently since the Renaissance), particularly when clay was over-engaged with the support of armatures as hidden crutches.

As an opposite and positive example we must respect pre-Columbian sculpture which reveals unmistakably its material and its typical form-behavior, by never mingling articulations in clay and stone and wood and metal.

Preferring essential and thus elemental form giving, we believe in reduction of effort, that is, economy of material, implement, and labor. Therefore, our continuous advice (since 1925) has been "Do less and get more" (preceding a later "Less is more").

In dealing with surface qualities, the appearance of material, we come to study *matière*. This French term, as mentioned before, is

more comprehensive than our "texture." We differentiate *matière* as "structural," "factural," and "textural."

"Structural" we call matter showing its origin, its formation or growth as wood and stone do, or as sponge and bread do by exposing fiber or grain, or looking layered, or cellular or foamy. We exhibit a collection of domestic and foreign wood veneers; also microphotos of metals, making their crystalline structure visible.

As structural *matière* is not repetitious, in the sense of copy and rapport, and, as it is without beginnings and endings, and continually similar but never duplicated, we may think of it as a "patternless pattern."

"Facture" comprises appearances resulting from surface treatment such as traces of tooling. We compare wood sawn and split (studied already in the drawing class), hewn and carved, planed and polished, also sandblasted and striated, or charred and weather-worn. In connection with wood construction, though at another time, we explain the application of split wood as different from sawn wood, or from plywood or laminated wood.

Similarly, we show and recognize metals of different appearances: cast and forged, welded and soldered, galvanized and anodized as well as in their multiform corrosions. We become aware of protective treatments like convex (raised) stamping, embossing, corrugation, or indented (concave) gravure of guilloche, or etching and chasing, often wrongly understood as decorations.

Besides typofacture (which we have already dealt with) we collect "scripto-facture"; our familiar newsprint, also typical pages from different countries and in foreign languages, or in letterings and types which have more calligraphic or graphilogic than reading appeal; handwritten and hand-lettered manuscript, liturgical text and notes – including the Declaration of Independence reproduced yearly on July 4. We compare the serene look of pages with stock exchange lists or classified ads with the noisy and dramatic advertisements of supermarkets.

Naturally, besides wood and metal, almost any material presents particular surface qualities which will widen our nomenclature of *matière* adjectives. And an increased familiarity with such characteristics will encourage fascinating juxtaposition of *matière* through the interplay of connecting affinities and separating contrasts.

*Matière* and color, although both surface characteristics normally compete and thus rarely further each other, as the recent fashion for texture has proved. Usually each of them gains intensity when separated, not mixed. For such intensification, we occasionally cover typical *matière* like sponges or bark with white, or dip them in black, or bleach autumn leaves, often changing their look amazingly. And once we found gilded fur most intriguing. We also remember variant styles of plaster treatment typical of rustic architecture in Italy.

With this we come to "texture," a term too general in regard to *matière*. We consider its use justified for *matière* combinations in which factural and structural surface qualities remain clearly discernible, as for instance with combed or braided hair, a plowed field, dug or raked earth (remember Japanese gardens). We see it in almost all woven materials, knitted, intertwined, hooked, or knotted – in textiles and baskets in which the substance of the warp and woof remains recognizable as thread or yarn, as twine or wire, as band or chip and shaving; whenever names like velvet, manchester, moiré, voile, and crochet work turn up in our mind.

Such studies in surface combination, much cultivated in Gothic times, became modern again with Dada (Dadaism, an art movement developed during the First World War, briefly called "Dada"). At that time flat *matière,* mostly in paper of innumerable surfaces and treatments, were pasted together as so-called collages or photomontages. In recent years this has again become fashionable in neo-Dadaism. Besides this pictorial performance there are combination studies in three dimensions called assemblage (like the famous "fur-lined tea cup" at the Museum of Modern Art) and which I myself practiced in 1921–1922 when, unable to obtain professional colored glass, I mounted shards of colored glass bottles on tin or wire mesh in order to make glass paintings.

Assemblage and collage today, presenting a new kind of composition or juxtaposition – quite independent of traditional drawing, painting, and sculpture – are called, appropriately, "mixed media."

Besides materials as such, elementary forms are also a point of departure for our investigations. Their watchful "repetition and reversion," extension and reduction (described earlier under drawing), now by folding and bending them, introduce proportional and/or proportionate relationships.

Placement studies, such as arrangement and re-arrangement exercises, distinguish recognizable order as the fundamental criterion of all art teaching and learning: from heaping as an accidental end to a more meaningful order, from habitual order, usually insensitive and faceless, to constellations of physiognomical appeal.

In attempting to present various projects of study, mere written explanation is badly handicapped without sufficient illustrative reproduction. Thus we can present here only a limited number of typical results of our studies.

We feel obliged to warn against so-called design principles, like "variety" and personal "handwriting." Too often they are easy excuses for undecidedness and aimlessness. Style is an unavoidable result of personality, not of forced mannerism.

In conclusion, the goal of basic design is to develop a visual idiom. It is a means of cultivating the "thinking in situations" which is imagination.

## Re-arrangement studies

Knowing that rebuilding a house often demonstrates structural conditions more effectively than designing and building a new one, within our placement studies we soon move on to rearrangement exercises. Figure 7 shows pieces of re-arranged window screen.

Normally this material is seen as a very evenly transparent film. And it is known to be woven from thin wire in a strictly horizontal and vertical linen weave. Because of its even transparency it appears immaterial and therefore flat or two-dimensional.

The task given to the student was to develop as homework – that is, independent of helping or disturbing class members – a structural change within the given material, through cutting and bending it, without disturbing its physical flatness, and aiming at a possible effect of three-dimensional appearance.

The correct solutions to the problem remain physically flat although we clearly perceive three-dimensional volumes. Such convincing illusions became possible through changing the even appearance by disturbing its basic order, namely the rectangular pattern of parallel and equidistant wire lines. Thus, increased densities and neighboring lighter and darker areas of different angularity are produced.

Similarly we re-arrange very loose net-like weavings used for onion sacks and the like. By shifting simple warp threads to moving bands and areas we are able to produce illusions of overlapping and very exciting embroidery effects.

## Sculpture in line

The sample study in linear metal (wire) done at the Graduate School of Design at Harvard by a pre-architectural student, aims at "sculpture in the round."

For an easy observation of its changing views, the rotating wood base has been mounted on a ball bearing. But all ten snapshots shown here are taken from a fixed camera position.

In order to realize its manifold repertory of performance, we try to state verbally the possible readings or meanings of the changing postures. We describe the many faces or features or acts this one figure has by appearing young or old, and quick or slow, fat or thin, we tell how or why it can be attributed to various times, periods, fashions, countries, or tribes and thus how it changes mood and speed – which is its behavior – continually.

That this wire structure stimulates such reactions and conclusions, justifies the effort of imagining it, and still more the effort of realizing it.

## Structural studies in paper

The idea of having paper as a point of departure for studies in structural organization I introduced in my basic design course at the Bauhaus in Dessau in 1926–1927. Today, forty years later, there are many publications on paper-folding, or "paper design," unfortunately too many of an illustrative, and even more of a repetitive nature, and therefore too often uncreative and uneducational.

Here I am showing purposely only three advanced paper constructions cultivated in several courses, and thus through years of cooperative efforts, pursuing consecutive and/or conclusive improvements. And purposely I do not give here explanations as to their execution in order to invite renewed invention – for the development of observing eyes, flexible minds, and skillful hands. Try to analyze how these three conditions are fulfilled.

All three began, in principle, in 1926–1927 in Dessau. No. 1 and no. 2 were finished about 1938–1939 at Black Mountain in 1940 [sic]; and no. 3 at Yale in 1960.

## Figure-ground

Our drawing of meanders has introduced us already to an immeasurably old design principle, the figure-ground relationship. Known all over the world and throughout history, it gained renewed emphasis in Gestalt psychology as a demonstration of double meaning and multiple reading of visual form. For us it points at artistic potentiality by recommending ambiguity in performance and the economic ratio of effort to effect as a measure.

In the case of the meander, a line and adjacent areas act and react simultaneously and alternately. Thus they represent both motive and accompaniment. And, as only one of them is factually done (here a line), whereas the other (here bands of ground) is an automatic by-product, it exists actually only in our visual perception – in our psychological reading. In most other cases only area shapes interact, and their greater or lesser distribution of area content makes us often wonder which one of the two colors or tones used is ground and which one figure.

As examples of figure-ground relationship we show first the unusual geometric pottery ornamentation of the Mimbres Tribes (Indian dwellers, extinct ca. A.D. 1000 in what is now New Mexico desert country). Then we show also their most exciting representations of birds and fishes painted also in black on their coiled bowls and cups of a bluish, light-gray shard. We show further pre-Columbian seals (*sellos*) used for stamping and marking.

Then we try to compete with such outstanding figure-ground designs. Beginning with simple cut geometric units, and continuing to free-form arrangements, we try hard to keep any of the means used from dominating the others either in content (quantity) or action (quality).

## Proportion

The study of figure-ground design leads us directly to the problems of proportion.

Because of the after-effects of recent over-individualization in art, such as action and informal painting, with their tendencies to self-expression and/or self-disclosure, some may consider proportion old-fashioned or superfluous. These problems remain essential as long as visual articulation remains a study, no matter whether intellectual measure or intuitive estimation is preferred.

Generally, proportion studies concern distribution and its underlying condition, measure. Measure in fields of visual organization (design) may mean initially mere counting and weighing factual data of numerical and linear extensions. All of which easily ends in possessive knowledge without leading to more productive recognition of quality – aiming at a measure of action, intensity, strength, and impact. Now, since quantity can be quality, and since capacity and appearance can be reciprocal, we see how comprehensive the problems of proportion are.

Our exercises in proportion begin with relationship of area contents, first of squares and related rectangles, then of squares and related circles.

In presenting their factual shapes to the class, we have learned that these shapes receive most attention when the teacher draws them in the air instead of on the blackboard; all students first follow the movement of the teacher, with their hands and fingers, and then repeat them, independently of the teacher's guidance. (Thus we not only employ the motor sense, but also train our visual memory.)

So, the teacher says and draws in the air: "A horizontal line" of which he marks off (between finger tips) a "one-foot length" as "the basis of a square," then erects on its ends verticals of the same length and connects the new ends by a horizontal line, also a foot long – necessarily. All draw the completed square clockwise and counterclockwise. The teacher: "Repeat this construction by yourself." His brief questions remind the class how to figure out the content of any square, then of this square, then of a square with sides twice as long.

Repeating the same square (in the air), the teacher draws "diagonals" pointing their four directions (upward – left and right, downward – left and right).

Being reminded of the Pythagorean law, the class will recognize easily the diagonal of a one-foot square measure, $\sqrt{2}$ feet (1.414 feet). Now the teacher, showing the factual length between his fingertips with a circular movement around the bottom corners, heightens the sides of the square to the length of the diagonal (still in the air). Connecting again their end points, he completes a rectangle, called the "$1 : \sqrt{2}$ rectangle," or the "classical rectangle."

Repeating this procedure by circling upright the $1 : \sqrt{2}$ rectangle, we arrive at a "$1 : \sqrt{3}$ rectangle," and so forth up to, let's say, the "$1 : \sqrt{9}$ rectangle" (whose sides measure 3 times its base).

After having drawn on paper such upward overlapping rectangles (all standing on the same base and therefore of the same width) we then draw them overlapping in an horizontal row, then without overlapping but touching each other – all together presenting a pleasant looking visual relationship of area contents which we call "proportional."

When constructing squares instead of oblongs of an equal relationship but differently arranged, we use the diagonal of the first square as a base for the second square, and consequently, as measure for the three other sides of that square. Repeating this procedure in the same direction, we arrive at a spiral movement with one end of the first diagonal as its center.

The proportional length of $1, \sqrt{2}, \sqrt{3}, \sqrt{4}$, and so forth, which we have constructed (with the help of compass and ruler), we use first as radii for concentric circles, whose contents are consequently in the proportion 1 : 2 : 3 : 4, etc. (that is, an arithmetic progression). And if we subtract the inner rings progressively, each remaining ring measures as 1; that is, they are alike in content despite their decreasing width, and thus are also equal in area to the first circle.

For comparing circles and squares of related extension, we construct concentric squares with sides equal to the diameters as used before and measuring, therefore, $2 \times 1 = 2$, $2 \times \sqrt{2}$, $2 \times \sqrt{3}$, $2 \times \sqrt{4}$, etc.

Again, the contents of the squares will be of the proportion of 1 : 2 : 3 : 4, etc., and the frames between them will be alike in content and also equal to the content of the first square.

But, when we start with a first square, as before, and circumscribe a circle with its radius half the diagonal of the square (going through its four corners), and continue to alternate square and circle the same way, we arrive at a very different result, namely at area proportions of 1 : 2 : 4 : 8, etc. (that is, a geometric progression resulting from multiplication, rather than an arithmetic progression resulting from addition).

Both arithmetic and geometric progressions compare areas, therefore quantity. Thus we consider both "proportional."

Different from such quantitative comparison is another qualitative relationship concerned with a formal affinity or similarity, with likeness or sameness of look, the physiognomy of shape or figure. As all squares look alike, or have the same face, that is shape, so do all circles, all equilateral triangles, hexagonals, etc., independent of their extension. We will call such similar shapes "proportionate." There are many other forms of such "extended or reduced congruity" (extended and reduced, as we do not here take into consideration their geometric contents).

We consider the study of proportionate form a training in physiognomic comparison, and therefore draw various series of proportionate figures. Remembering how to construct (in geometry) "similar triangles" (through parallels to each of the sides) we place triangles of various sizes along extended vertical or near-vertical lines on our drawing paper so that one triangle side falls on that long line. Considering that part of the line as base for a reversed duplicate of the first triangle, we arrive at a parallelogram in which that base turns

into a diagonal separating as well as connecting two repeated and reversed triangles. By drawing further parallels to the triangle sides or parallelogram sides respectively, we achieve a complex proportionate figure.

Or we begin with a standing (or lying) "classical rectangle" ($1 : \sqrt{2}$) and draw on its upward and downward extended diagonal, larger and smaller proportionate rectangles (also overlapping) all, of course, with vertical-horizontal sides. We fill our drawing sheets with this and similar exercises.

For rounding off our proportion studies, we learn from Doric temple facades how to construct one of the many historical (mainly architectonic) proportions called the "Golden Mean" or "Golden Rule" or "Golden Section." Although we consider it peripherally related to our own mentality, it is exciting to visualize its being at the same time a geometric and an arithmetic progression, and therefore it can be defined as a median between extremes.

The "Golden Section" subdivides any line into a smaller and larger part so that the proportion of the smaller part to the larger part equals the proportion of the larger part to the sum of both, the whole line. Conversely, the whole line is to its larger part as the larger part is to the smaller part. This, translated into numerals, reads approximately 5 : 8 : 13 : 21, etc.

All this factual and two-dimensional study should lead to a consideration of visual proportions also within three dimensions, of volumes both positive and negative; that is, of solid masses and hollow spaces. So far, apparently, little has been done along these lines. And, as intuitive estimates in this dimension are (for obvious reasons) hardly convincing, the challenge persists to develop some practical visual measure.

As science has moved from conceiving matter as inert to conceiving matter as energy, so art, in a parallel direction, has learned to consider perceptual effects. And thus it seems we are on the way toward an entirely new comparative relationship – beyond three dimensions – namely a proportion of qualities and intensities.

This section on proportion (the longest of this book) has purposely been presented here in verbal description only, avoiding all graphic illustration. This was done in order to have the teacher practice the exercises himself before asking them of his students, which may be the start of a mutual search by students and teacher.

In summing up, then, the two-fold aim of our proportion studies is to discern the quantity and quality of basic form; quantity referring to content (inside) and quality to shape (outside), or, in the same order, to equalness (areas identical, also divided or multiplied) and similarity (as to likeness, look, appearance).

Through comparison of basic shapes by mathematical and physiognomical measure, we may finally distinguish etymologically the terms "proportional" and "proportionate" as referring in design to geometric (extensional) weight and perceptual meaning, respectively.

## Order, placement, re-arrangement

Earlier, we reported on our re-arrangement studies. There, by means of either slight changes by sliding or shifting, or by dissolving more vigorously a technically and/or formally conditioned order, we elicited surprising if not unforeseeable possibilities.

Listing many kinds of visual order of material, from natural, or organic order to man-made order (hand, tool, machine-made), we find manifold points of departure for our re-arrangement studies of processed material as well as for our placement exercises in more basic matter and basic form elements.

For the manual handling of materials we like to explore many possibilities, preferably between opposite poles. One example of a relatively free or indistinct order is that of the heap or pile, an amassing. Here, we may associate something wasted, spoiled, disturbed, unpleasant, mostly formless, unless we think of heaps of one material alone, and thus reveal again character as to appearance and behavior.

So, sometimes I present to my class a sack of sand, providing small sand piles for every class member. From playing at beaches we remember how poorly sand lends itself to any shaping. And now, on our tabletop, it appears less inspiring. It is disappointing to see its lazy lying down and its lack of structural capacity, its constant returning into its small flat hills. Why this? But we remember also that under continued treatment by shallow water waves it records plastically the waves' rhythmic traces which the wind also may draw sometimes.

We know that at the beach it was possible to build cones with a pointed apex, and pyramids with sharp edges and apex. The question, why not on our tabletop, leads to the essence of this detailed description: Sand as granular matter rests on sand by gravity only (a vertical force). Thus water providing adhesion (binding in every direction) permits clear-cut modeling. But with the evaporation of water all edges and points vanish.

Apexes extended as edges in wet sand may present moving ridges, turning back on themselves and thereby separating or connecting solid and empty volumes. Combing flat sand areas may, besides reminding us of Japanese gardening, invite illusionary over and under passes of parallel narrow lanes. If the results of similar modeling in sand may be worth preserving, they are easily fixed by casting (positive and negative) in plaster of Paris.

Spreading out then from sand and other granular or crystalline media to more powdery matter like flour and gypsum, which provide far more adhesion than sand does, stimulates us to indent shapes and volumes by hand and tools.

Utterly adverse to heaping and piling of materials is arrangement in rows and linear order. Today, it appears not to be accidental that after action painting, a lining up of identical elements, or additive rows of repeated equals (in shape and material) is due, signifying a

contemporary mode of performance corresponding to an aesthetic acknowledgment of industrial mass production.

To start within a distinct order of this kind, we may give typewritten lines of letters (not of words) a new perceptual impact. Although retaining their strict horizontal and equidistant order, we may achieve a gradual or alternating change between a blacker and lighter, denser and looser look, and so from a near to a distant effect, thus transforming the normally desired even pearly gray.

Or, also on a typewriter, we build with punctuation signs only, a weaving up-and-down motion within a line. Or, using many rows, we create illusionary oblique crossings of the horizontal letter lines. Or, we build with rows of one repeated type alone the illusions of a plane intersecting other planes and solids. Or, we construct opaque and translucent geometric solids, again by repeating one character alone.

And to start within a freer order again, we place matches on paper not as though they were pasted on a wall, but as though they were standing on the paper which provides a horizontal ground.

I have purposely ended with something simple and easy to handle which has innumerable possibilities for a demonstration of creativeness.

All these descriptive details are presented in the hope of giving order in design a meaning, and placement a value of constellation.

All for the sake of – seeing eyes and minds,
all for the sake of – art again.

More or less

Easy to know
that diamonds are precious
and good to learn
that rubies are deeper
But more to see
that pebbles are miraculous.

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III. Art Studies as Basic Training: Observation and Articulation. Handwritten, typescript, typescript carbon drafts with handwritten corrections, Box 72, Folders 8, The Papers of Josef and Anni Albers.

## Op Art and/or Perceptual Effects (1965)

*The "Father of Optical Art" distinguishes between art and optics and outlines his conceptions of the physical and psychic effects of optical art.*

To distinguish any art as optical is just as meaningless as to call some music acoustical or some sculpture haptic (haptic refers to the sensation caused by touch). Such art terms are as redundant and nonsensical as wood carpentering and foot walking or, to take something closer to our subject, color painting.

What recently has been called *optical painting*, I had named some years ago, perceptual painting.

Of course, visual perception presupposes optics: light rays emanating from any objects, entering our eye and passing its lens, project a picture of the object on the retina.

With this projection on the retina, the role of optics in visual perception ends. From here on, all following susceptivity, subconscious or conscious, part registration or full recognition, is psychological, and emphatically so when mental reactions engage, as usual, in preference and prejudice.

Thus all visual perception consists initially of optics which result in psychological reactions.

Although perception connects our outer, ocular sight with our inner, mental seeing, we must distinguish the physical stimuli as pre-retinal, and their impact on our mind as post-retinal, or better, as post optical.

From this follows that another new term, *retinal art*, presents a still narrower, less acceptable concept of art.

Therefore, when closely drawn concentric circles tell us merely that our eyes are astigmatic and in need of corrective lenses, those circles are solely retinal.

The same can be said about rows, bundles, or fences of repeated brush strokes in transparent dyes or paints, overlapping each other in parallel or crossing order, and showing nothing more than their incidental mechanical mixtures. They stop short without any new insight or revelation, for the painter as well as for the onlooker.

Both such naive optical happenings may serve information or entertainment, but they alone are not art.

Art, as post-retinal experience, offers insight to sensitive eyes and minds, that is, a seeing of more than just optical facts. This, of course, presupposes ability to recognize, for instance, that all color constantly changes and even loses identity through interaction with other colors.

This means that color reacts to changes of light and shape and placement, and that it is modified by changing quantity, that is, by size and number, as well as by extension and recurrence.

Any color may take an advancing or receding part, appear heavy and light, high and low. As any color alters temperature and light, it may

look both warm and cool, dark and light, and even double-faced in hue and/or light – within one plane.

And just as color itself alters, so do its boundaries vary from clashing to merging, from vibration to vanishing contours. This shows that another recent art label, *hard-edge*, introduced to discriminate geometrical abstractions, is meaningless.

We conclude: Color, through its multiple actions, proves the most relative medium in art.

This demands from its manipulator, particularly when he aims at perceptual effects, the ability to make one and the same color look like two and more, or two and more colors look alike; or to make three colors read as four, or three or four colors behave as two.

The relativity of color invites one to make flat coats of opaque paint appear translucent and transparent, or layered, overlapping and intersecting. It tempts one to give so-called neutrals – black, white and gray – a color tinge, or to make any dense paint, particularly heavy gray, look gaseous, or to have blues appear warm and reds seem cool.

All these techniques change the identity of color and prove that color is magic.

But many painters today are unaware of, or irresponsive to, related and corresponding colors; they unknowingly avoid color interactions by separating colors by empty canvas or black contours.

Only when the painter makes the spectator see more than the painter (physically) has presented will he produce *perceptual* (psychological) effects.

And only when our minds are directed through appropriate juxtaposition (combination) and constellation (placements) of color and shape will we sense their relatedness and mutual actions; then *to see* art will become a creative act.

The intense interest in such possibilities, particularly of color, and the enthusiastic response to them by artists (especially the younger ones), and by a broad public, are far more than a new fashion or vogue. This interest is the impact of a new development, if not a new era.

It clearly opposes the self-expressionistic and forced over-individualization of the past decade, which has reversed itself into an "all-like" conformism as never before seen.

Obviously, something different is not only expected here as well as abroad, but it is on the way; something newer than those revivalisms which needed the prefix "neo" to hide their nostalgic retrospection, as *Neo-Impressionism, Neo-Orphism, Neo-Dadaism*, and *Neo-Surrealism*. The impotent anti-art-ism will similarly fade.

Let us not overlook how the introductory exhibitions of the new tendencies in art, such as the "Responsive Eye" of the Modern Art Museum, and earlier, the "Abstract Tromp l'Oeil" of the Janis Gallery have been received by the public and the press.

It was a sympathetic welcome, a relief from years of waiting for something promising and progressive. It came after years of uncommunicative and non-presentative offerings in art galleries and helpless verbosities in art magazines.

Now order and meaning, as well as enjoyment and understanding, appear conceivable again. And directed training and study will be possible, as planning and rehearsing.

As a liberating conclusion: ratio is "in" – anew, and angst is gone, and – "out."

In connection with the new developments in perceptual art, it has been speculated that art may turn into science, or that science is to direct and dominate art.

I prefer to distinguish art and science as polarities of creativeness, because, "The source of art is the discrepancy between physical fact and psychic effect."

No knowledge of acoustics will make us musical – neither on the creative side nor the appreciative side. And, similarly, no optics can explain art.

In order to correct a confusion of today, we must know that pictorial presentation of optical effects alone is not art. For art leads sensitive eyes to see, to realize or to read more than meets the retina. Art adds psychological effects to physical facts.

Once more, "The source of art is the discrepancy between physical fact and psychic effect."

I am tempted to present samples of new color effects in painting. But most photochemical reproduction is insufficient to register subtle color interaction. Therefore I prefer to show some straight lines, unmodulated and two-dimensional, which through their constellations challenge our reading of them, and with this, our imagination.

As we regard these lines, their directions constantly change. We perform perceptual effects by adding and seeing spatial qualities and motion, both of which do not exist factually, but only in our producing and seeing them.

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First published in *Yale Scientific Magazine* 40, no. 2 (November 1965): 8–15. (Here only the first pages have been reproduced.)

Typescript, typescript carbons and handwritten copy, Box 80, Folder 40, The Papers of Josef and Anni Albers.

Subsequently published in German in *Kunst und Unterricht* 6, no. 4 (1969): 42.

Typescript of the translation into German by Josef Albers, Box 7, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.


Josef Albers, Lettering set, 1926–1931.
Milk glass and painted wood,
24 1/8 x 23 7/8 in (61.3 x 60.6 cm).
Museum of Modern Art, New York

## Glass Lettering (ca. 1965)

Whereas a normal lettering alphabet consists of at least 72 different characters, here all letter signs can be composed from only 10 basic type-elements. The chosen shapes are to be cut from sheet materials such as glass and metal.

These combination elements I developed from an earlier construction-type system I invented in 1925. In this system only three basic shapes are sufficient to compose any letter, numeral, etc. These three elements are a square, a quarter circle, and a circle, all of the same horizontal and vertical extension.

The here shown later system with 10 basic elements – from ca. 1928 – was to dispose of the disadvantages of large-size wooden letters used for large posters and firm signs. The disadvantages were, first, changes inherent to the material, wood; namely, shrinking, warping, cracking, and breaking. Secondly, the unusually large shelf space demanded for their storage. Comparing the three-element system with the ten-element system, the latter one avoids the horizontal joints within the vertical letter members.

Following is an excerpt translation of the right page of the reproduced leaflet:

80% saving on types, and still more on storage space.

Breakage reduced to a minimum.

Order, storage, replacement, packing most simple.

For outdoor use: easy application; no accumulation of rainwater; and easy cleaning because there are no negative corners.

Combination and montage very simple: on top of drawing on the back of the glass or in paper stencils on the front of the glass.

All of this together results in an essential reduction of expenses.

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Unpublished English typescript, Box 22, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Glass lettering, ca. 1928. Photographs with handwritten description, ca. 1965, typescript carbon writing and photocopies of lettering and writing, Box 43, Folder 25, The Papers of Josef and Anni Albers.

This text accompanies an alphabet based on circles and rectangles in several sizes, developed for outdoor use.

## On Kandinsky (1966)

... Kandinsky thought that a great work of art is necessarily the outcome of a deep concern reflecting a similarly deep and intense experience or insight. This insight would then cause an urgent need, and consequently the desire to reveal it; that is, to formulate it visually by creating a work saying something new or anew.

The realization of such an aim, in other words its execution, may be sought in many ways. It always demands, besides a formal organization, a technical organization – as its carrier, its foundation and medium.

Whether one approaches production of the work with a definite concept, visualizing its presentation in advance, or whether one begins, as recently preferred, with only a general idea of it, awaiting clarification from its execution, and particularly from a swift dramatic performance – care for the physical basis remains obligatory. Whether realization is a step-by-step development along preparatory studies, or, in contrast, the result of a more intuitively directed and sometimes spontaneous gesticulation – inappropriate material and tools will measure sincerity.

... Great works, thru [sic] an inner strength revealed in their intense look at us, and thru [sic] their impact on our inner being, inevitably raise our pride in knowing them, in having them, and in saving and protecting them – forever ...

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Originally written in February 1966, on the occasion of the centenary of the birth of Kandinsky, at the suggestion of Will Grohmann. First published as "Grandeur de Kandinsky: la pensée + le sentiment." / "The Grandeur of Kandinsky: Thought and Feeling," in *XXe Siècle* 27, *Centenaire de Kandinsky* (Paris: Société internationale d'art, 1966), 99. Photocopy, Box 80, Folder 18, The Papers of Josef and Anni Albers. Reprinted in *Origin* 8 (January 1968): 31–32. Reprint, Box 25, Folder 245, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

In 1968, Albers explained how he wrote the article at the suggestion of Will Grohmann. "I think Kandinsky and I were very near friends. I'll give you later an article I have written on Kandinsky's 100th birthday last year in the *Vingtième Siècle*. They have an article that I wrote at the suggestion of Will Grohmann. He had suggested that they should invite me to write about Kandinsky. Because with him I had a 'sympathetic' relationship. Klee was a man on his own. One couldn't easily speak with him. He was a very nice man." Oral history interview with Josef Albers, 1968 June 22–July 5, Archives of American Art, Smithsonian Institution, http://www.aaa.si.edu/collections/interviews/oral-history-interview-josef-albers-11847 (accessed January 11, 2014).

Josef Albers, New Haven, Connecticut (detail), 1950. Photo: Rudolph Burckhardt

# Texts on Josef Albers

## Wassily Kandinsky

### Compliments to Josef Albers (1934)

For many years I have known Josef Albers' production. The first time I saw him, he was an apprentice-teacher at the Bauhaus, where he worked in the glass painting section – and although he was still a student, he executed independently very interesting and delicate paintings, with great technical finesse. Later – as teacher at the Bauhaus – he became my colleague. His pedagogical activity is one of the best memories that I retain of the school, which unfortunately exists no more. There he gave the whole measure of his inventive strength and his vivacity, the strict structure of his method was so impressive that he soon found imitators among teachers of other German universities.

As a productive artist he went on working with glass, and in this field he found a new and beautiful technique. He created a great number of pictures *on* (it would be better to say *of*) glass, which show geniality not only of technique but also of purely artistic order.

The colors of those pictures are simple: blacks – whites and sometimes slightly incised.

The Galleria del Milione offers for the first time to the Italian public Josef Albers' wood engravings, and looking at those beautiful sheets you will have to agree with my statements, because in them you can clearly see all of Albers' qualities, artistic inventiveness, clear and convincing composition, simple but effective means, and a perfect technique.

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Originally published in Italian with two other texts by Xanti Schawinsky and Alberto Sartoris as "Omaggi a Josef Albers" in *Il Milione. Bollettino della Galleria del Milione* (Milan), no. 34 (December 1934). Reprinted in *Josef Albers*, ed. Marco Pierini (Milan: Silvana; Modena: Galleria civica di Modena, 2011).

Unpublished typescript of the English translation by Nora Lionni, Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Wassily Kandinsky (1866–1944), the influential Russian painter and art theorist, and Josef Albers first met at the Bauhaus in 1922, when Albers was still a student and Kandinsky joined the faculty. Before then, Albers had attended the Royal Bavarian Art Academy in Munich (1918–1919), where he had studied drawing with Franz von Stuck, former professor to Kandinsky. The two men became colleagues when Albers was appointed "master" of the Bauhaus, although Kandinsky was in a clearly different position from Albers; he was twenty-two years his elder and had already reached the peak of his career. Albers never studied under Kandinsky, but he had great respect for him and his attitude of not trying to make disciples. After the Nazis precipitated the closing of the Bauhaus in 1933, Kandinsky moved to the Paris suburb of Neuilly and Albers to the rural town of Black Mountain College in North Carolina. It was then that they started an intense exchange of letters which continued until 1940, and whose underlying tone shows a deep and warm friendship.

The forty-six documents that were conserved (including those at the Collection of Archives Kandinsky, MNAM-CCI, Centre George Pompidou, Paris) from their correspondence are published in *Josef Albers and Wassily Kandinsky: Friends in Exile. A Decade of Correspondence, 1929–1940* (Manchester and New York: Hudson Hill Press, 2010); originally published in French and German as *Kandinsky-Albers: Une correspondence des années trente / Ein Briefwechsel aus den dreissiger Jahren* (Paris: Éditions du Centre Pompidou, 1998).

Correspondence between Josef Albers and Wassily Kandinsky (1934–1940), Box 1, Folder 15, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## Katherine Dreier

### [Statement] (ca. 1936–1938)

The growing interest in abstract art shows that the prophecy that it had increased the vision and expression in art was true, for one finds the youth of all countries free from the inhibitions which blocked the older generation from enjoying these new visions and forms in art.

It seems therefore strange that in spite of the growing interest, the confusion which surrounded this expression of art from the very beginning has not lessened and was again brought to a point by an important collector changing the name from abstract art to non-objective art.

These new forms of beauty which have given birth to so many new forms of expression formerly denied the medium of painting as, for instance, the animal psychology which Franz Marc emphasized through color; or the kinship to music which Kandinsky introduced; or the sensation of motion which is to be found in all of Duchamp's works and to which attention was first drawn by his now famous *Nude Descending the Stairs*, or the illumination of time and space which we also find in the radio and which is inherent in all these new expressions of art, in one form or another, could not be enclosed in so negative a term as non-objective art. This new expression is far too positive – too vital – to be included in a negative term. Besides, the term "objective" is misplaced here, according to the definition in Webster's New International Dictionary, which states that it signifies "of or pertaining to an object of action or feeling – forming an object of attraction or a final cause – pertaining to the material object." Then one is referred back to section 4 of "object," which reads, "that which is set or may be regarded as set before the mind so as to be apprehended or known – that of which the mind by any of its activities takes cognizance, whether a thing external in space [and time] or a conception formed by the mind itself." It adds "that in ordinary usage it is often equivalent to thing or physical entity conceived as totally independent." If the term then was used in relation to so serious a subject matter in its ordinary usage, why was not the even more general term of non-representative art used? In the end one, however, asked why change a term already in use, which meets the needs and which is as positive as these new contributions to art are.

Why this aversion to the word "abstract," which the dictionary defines in its philosophical use as "separated from closely associated ideas or perceptions; as the solidity of marble when contemplated apart from its color or figure is an abstract conception; also symbolically representing to the mind something which is not or may not be immediately perceived; as an abstract idea of a horse or France." This new enlarged vision in art makes possible for the first time to express through color and form as I have already stated

many impressions and ideas hitherto denied painting. It can carry you the world over and give you this sensation; it can at one and the same time have you enter into the longing of the city-dweller for the country, for it can overcome time and space in spite of its two-dimensional from as the radio can in another way. It can render through music. It can give you an insight through its new use of color of the psychology which actuates motives – it goes deeper and further than it was ever conceived that art could go. These abstract ideas become objects as they take shape from the conception which is formed by the mind itself.

Every conception when it takes form becomes an object, for how can the eye behold that which is without form? Therefore, how can there be non-objective art?

But there can be abstract art representing to the heart-mind, not the intellect, something "which is not or may not be immediately perceived." But it must not be confused with symbolism, which is "a representation of objects, qualities, or ideas by means of symbols or emblems." Abstract art gives you the feeling, the sensation through its combination of colors and forms, which may be as different as a symphony of Beethoven is from one of Mozart's. It has therefore nothing to do with emblems or even symbols, which time and usage have created. One is a language pertaining to religious and tribal emblems, while the other gives freedom of expression to the individual.

Basically all fine examples of art are the same, based on definite laws – but the super-structure differs. It is this super-structure which still puzzles so many people and causes the continuation of the confusion that still persists.

In closing, I would like to suggest to those who wish to have an understanding of abstract art – or for that matter any expression of art – to stand in front of it and not to look at it as if it were a picture puzzle, for that closes the organs of perception.

Instead you should let the painting bring its message to you – then you will awaken the faculties needed for the appreciation of art – for one does not appreciate art through the intellect but through the heart-mind which receives its chief stimulation through the organs of the eye, the ear, and that inner organ of perception, which alone makes possible the growth of our vision.

If what I have said has helped anyone to see more clearly the pictures of this choice small exhibition of the works of Josef Albers, which should both stimulate and bring enjoyment to those who will let the paintings speak to them, then indeed it has been a special pleasure to have written this introduction.

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Unpublished typescript signed as Katherine Dreier, President of Société Anonyme, Museum of Modern Art, Box 3, Folder 38, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Katherine Sophie Dreier (1877–1952) was an American artist and collector who founded the Société Anonyme with Marcel Duchamp and Man Ray in 1920. The Société Anonyme, which was formed to support and generate awareness of contemporary art, promoted new artists by arranging exhibitions of their work. Dreier played an essential role in generating American interest in and acceptance of modern art. She ran the Société Anonyme's small gallery, curated exhibitions, and wrote essays and gave lectures in support of modern art. Dreier was also an accomplished painter – two of her works hung in the legendary Armory Show of 1913. In 1941, the Yale Art Gallery was known to have the best university collection of contemporary art in the United States, thanks to the more than six hundred paintings and sculptures bequeathed by Dreier. Today, The Katherine S. Dreier Papers / Société Anonyme Archive that documents the life of Dreier and the activities of the Société Anonyme form part of the Yale Collection of American Literature and are at the Beinecke Rare Book and Manuscript Library, Yale University. The correspondence between Josef Albers and Katherine Dreier took place while Albers was at Black Mountain College and predates his appointment at Yale.

Correspondence between Josef Albers and Katherine Dreier (1936, 1941), Box 3, Folder 9, The Papers of Josef and Anni Albers.

Correspondence between Josef Albers and Katherine Dreier (1936–1940), Box 1, Folder 6, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

## Alexander Dorner

### [On Josef Albers] (1942)

People who consider life as a series of variations of eternally unchangeable laws and rules will not like Josef Albers' work or the education he is promoting.

But people who feel that life is creative evolution which constantly grows into wider concepts will find his work and his educational psychology the catechism of our new concept of art.

Albers forces you to leave your fixed seat in the orchestra from where you look at the play going on according to static rules; he takes you out into the open spaces where there is no outside support of such iron rules of perspective and logical proportions of beauty. Here everything lives by its own energy of growth, and here the whole is not paralyzed into a system in which time and space live "logically" separated side by side. Here they merge into the new unity of moving energies which we call the fourth dimension.

Correspondingly education gives no longer the "freedom" of variation inside of the cage of "allegedly" eternal rules of beauty, but makes you work your own way toward an understanding of a functioning nature through unacademic experiment and undogmatic constructive thinking. Modern esthetic is determined by the tension of transformation, not by the static of the immutable.

Josef Albers is the clear, unirritable, and conscientious apostle of the modern movement in art.

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Typescript, Box 27, Folder 263, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. Untitled typewritten text (Providence, RI), February 1942, partially printed in "German Artist Appears Here: Paintings of Joseph Albers to be on Exhibition," *The Florida Flambeau* 33 (Tallahassee, FL), no. 20 (April 12, 1946): 1–2.

Alexander Dorner (1893–1957) was a German progressive museum director who became an advocate of avant-garde art and modern museology in the United States. Dorner joined the State Museum (Landesmuseum) in Hannover as curator in 1923, rising to director in 1925. His appointment coincided with Walter Gropius' founding of the Bauhaus in Weimar. As a museum director, Dorner developed one of the most adventurous programs for exhibiting and collecting modern art in Germany in the 1920s and 1930s. He was a vocal opponent of the Nazi's "Entartete Kunst" (degenerate art) exhibition of 1936. In 1937, Dorner emigrated to France and then to the United States, where he was appointed director of the Art Museum at the Rhode Island School of Design in 1938, following the recommendation of Erwin Panofsky and Alfred H. Barr. Jr. A letter from Dorner to Albers, from February 26, 1938, in which Dorner shared his concern about the risk of "making a mistake and in the end spoiling everything," because he was "planning a new arrangement of the whole museum and [he needed] all his power for that purpose," points to a relationship that may have started in Europe (RISD Archives, Office of the Director 1930–1949, Correspondence A–Z). At the outbreak of World War II in 1941, owing to his German background and false accusations of Nazi sympathies, Dorner was forced to resign from the RISD museum, and became a professor of art history first at Brown University and then at Bennington College.

Correspondence between Josef Albers and Alexander Dorner (1953), Box 3, Folder 7, The Papers of Josef and Anni Albers. Alexander and Lydia Dorner visited the Alberses at their house in Orange, Connecticut, on September 8, 1952. Albers' guestbook 1950–1977, page 3, Box 29, Folder 10, The Papers of Josef and Anni Albers.

## Elaine de Kooning

### Albers Paints a Picture (1950)

Holding a tube of pigment in one hand and a palette knife in the other, Josef Albers finished his *Homage to the Square* in five hours. Evenly painted in gray, black and white, the severe, anonymous construction of this picture does not seem to demand a virtuoso touch, and the artist insists that "someone else could have executed it." But the aseptic, almost militant simplicity of each of Albers' designs is the result of a long series of rejections – an arduous and complicated exercise of the element of choice. It is not surprising, therefore, that the artist tends to describe his technique in terms of what he renounces: "no smock, no skylight, no studio, no palette, no easel, no brushes, no medium, no canvas." (He works on a table in any room handy, and can keep a white linen suit immaculate throughout a painting session.) And, continuing to list his rejections in terms of style, he says, "no variation in texture or '*matière*,' no personal handwriting, no stylization, no tricks, no 'twinkling of the eyes.' I want," he concludes, "to make my work as neutral as possible." And so each single color and form in his work is clearly circumscribed, measurable and describable (the artist lists them in his spectacularly tiny handwriting on the back of each board). But the complex moral issues and attitudes toward society – the puritanical conviction – that a susceptible observer might find in the total effect of any one of his pictures could not be so easily accounted for. This extra dimension is precisely intended; as Albers says: "The concern of the artist is with the discrepancy between physical fact and psychological effect."

Eminently articulate, the fresh-complexioned, sixty-two-year-old artist has been making himself clear (and entertaining) to students of art, architecture, and industrial design ever since he

Josef Albers, New Haven, Connecticut, 1950.
Photo: Rudolph Burckhardt

held his first classes in the Bauhaus workshop in 1923. After ten years at the world-influential German school and laboratory, where he married a student of one of his fellow professors, Albers came to North Carolina, staying there for seventeen years to form the avant-garde art policy of Black Mountain College. Here he gave his unorthodox and far-reaching classes in design, while his wife Anni, who is celebrated for her elegant tapestries and fabric designs, taught weaving. Recently appointed chairman of a new Department of Design at Yale University, Albers, unlike many other artists, has always managed his duplex career of teaching and painting without infringement either way. Rather, each seems to be an integral part of the other: his own paintings make brilliant demonstrations of his verbal theories, while his theories constantly expand with his discoveries in design and color.

Exactly the opposite in method and approach from Mondrian, with whom his name is often inaccurately coupled, Albers does not arrive at his strict, geometric forms through sensibility – by inching a contour back and forth until it settles in place. Rather, his is a completely intellectual attack. With an almost oppressive consciousness of every aspect of his art ("not to be aware is a weakness for an artist," he says), Albers confines himself to "actual, mathematical relationships." As Mondrian strove until he found the utmost rigidity of a plane or straightness of an edge, Albers – a master of optical illusion – will try to make a ruled line look bent or a flat color seem modeled. As his opaque reds, blues, yellows or greens approach each other, they seem to shift in tone, lightening or deepening, becoming warmer or cooler, creating effects of overlapping films of color that have more in common with Turner's shimmering, transparent hues than they do with the Dutch master's unyielding primaries. And, finally, as Mondrian worked for months over one painting, Albers always makes his directly, never changing a

color or form once it is put down. But although the physical execution takes only one night, the real evolution of a composition by this artist is through a long, tortuous series of sketches.

Working mainly by night, he begins searching for a theme, making small, freehand pencil drawings, playing with different geometric configurations. He manages to find such a staggering variety and expressiveness here that he is never lured away from his straight lines and symmetrical designs. "For me," says Albers, "a triangle has a face. A square, a circle – any elemental form – has features and therefore a 'look.' They act and provoke our reactions, just as complex forms, such as human or other faces and figures do. That many don't see this is unfortunate – but does not prove the contrary. Many are willing to see features in dress or furniture. Fewer are able to accept that every visible form and color has meaning." (Although he received a thorough academic training at the Royal Art School in Berlin and later at the Art Academy in Munich, Albers, with the years, became less and less interested in representational art. More related to his concept of the making of a picture was his Westphalian family tradition of craftsmen – blacksmiths on his mother's side, carpenters and tinkers on his father's.)

Right from this first step, through each stage, Albers finds himself confronted with thousands of possibilities. The lines that form his brittle diagrams are diminished here, lengthened there, made finer or heavier, juggled to yield up a constantly increasing number of relationships. Teasing a problem for more and more solutions, Albers admits that he "hates to leave butter on the plate." When he finds some themes that interest him – for *Homage to the Square*, a group of progressively smaller squares, asymmetrically set on the horizontal axis, but symmetrically on the vertical one; and for the series of designs called *Transformations of a Scheme*, an arrangement of overlapping squares tilted against the rectangle of the panel – he discards a mass of sketches and begins to refine the few he has settled on.

From now on, the diagrams are more carefully controlled. He uses a ruler, working on graph paper, measuring his lines and angles exactly, balancing unit relationships. At this stage, he uses tracing paper over the graph paper, lifting forms from one drawing after another, constantly altering proportions and adjusting combinations; sometimes effecting a change with his soap eraser, but more often making a completely new plan. He will pick out a basic motif, using a pin to mark it off on five or six sheets of paper at one time, and then introduce counter-movements in the different variants. "After your first sketches," says the artist, "you must either enlarge or reduce." So the drawings in this group range from postage-stamp size to double that of the final work.

He goes no further than this preparation for the shiny-surfaced laminated plastics which comprise about half of his output every year. When he has decided on the final sketch here, he makes a plan (actual size) on tracing paper, indicating the precise gauge measurements of the lines, which are then engraved, to reveal the white core of the board, on a pantograph machine by a company in New Jersey (Insulation Fabricators). The hard surface of the plate permits the drilling of very fine lines – down to .015 of an inch. When the finished engraving is returned to him, he sometimes wants to make further adjustments. He may find an area "too full," in which case he will reduce a set of lines by filling them in with black ink, but more often changes are in the nature of amplification. He will decide that certain shapes should be emphasized, which can be done either by making the outlines heavier or by making the enclosed areas gray and mat (this is accomplished by sandblasting) in contrast to the smooth black finish of the rest of the panel. In these engravings, straight lines, describing static, geometric forms, fall into designs of the coldest orderliness – and yet the artist, with his genius for emphasis, avoids the immobility one would expect, achieving an unaccountable liveliness of expression as his forms seems to march from one plane to another (Albers sees them as "making grimaces"), giving a vivid sense of temporal – as well as spatial – rhythm.

But, for his paintings, this stage is just the point of departure for the next series of sketches in oil. He has made his format more specific: The number of squares is more or less fixed at four, two of which are to be the same color but divided by an inscribed pencil line. These are made on blotting paper so that the surplus oil is absorbed (Albers finds that "tubed colors nowadays have too much oil"), leaving only enough to bind the color and produce the mat finish he generally prefers. And, as with his line drawings, he makes innumerable variants "to see what fish are in the net." Although he begins these with ruled lines, the pigment is applied rather quickly (he may make thirty in a week) and the edges are often unintentionally wavering. At this point, his main interest is the balance of masses of color next to one another. Using twenty different shades of gray ("all I could find"), several blacks and whites, and some twenty other colors, the artist made all of these sketches rarely if ever mixing his pigments. "All mixing is a subtractive measure," he maintains, "costing some loss of color and light." Although he works by night "because most pictures are looked at under artificial light," he occasionally breaks this routine since "certain colors demand cold daylight."

An authority on optical effects of colorants, Albers does not agree with the "harmony laws of various color systems which hold that only certain colors related in certain ways fit well together." (Among the theoreticians, he likes Oswald and Chevreul – the latter for stressing contrasts over harmonies, and also Goethe, for his exhaustive studies on the science of color.) Interested in employing "color-discords" rather than harmonies, Albers feels that any group of colors can have an exciting relationship. "That seems simple enough," the artist continues, "but since the effect depends on the quantity, placement, shape, recurrence, ground, reflectability, etc., it remains a struggle, as color is the most relative medium in art, and it takes a trained eye to see the possibilities of correspondence among any given tones." In each of

his sketches, he fixes proportions and area subdivisions before applying his pigment, explaining, "I want color and form to have contradictory functions." Thus, working with one format, but varying the color in the different versions, he can alter the relation in depth of his fixed forms, making one rectangle become a hole in the surface of the larger one enclosing it, jut forward or even assume the identical plane; or he can make a shape expand or contract, from version to version, on the flat surface of the picture.

When the artist feels he has exhausted the possibilities here, he is ready to begin another selection. Spreading them out on the floor, he studies his sketches for hours, from up-close as well as from a distance (often using a reducing glass to qualify their effect), rejecting some immediately, and finally choosing some fifteen or twenty from a group triple than many. Then, taking this smaller group, he begins to experiment further, cutting out masks to lay over them, painting on the masks to try out other effects, employing sheets of cellophane, as a time-and-material-saving device, to paint on. (He is able to scrape the pigment from the cellophane and use it over again indefinitely). He also cuts up some of the sketches, removing a "border" or a center from one to place it over another.

Now, with one painting in mind, he decides on a range of colors – white, black and gray – for the first version of *Homage to the Square* (for subsequent versions – there are ten in the making – he returns to these sketches to pick out other combinations). Dispensing with the inscribed pencil line of the previous studies, he makes his final, and largest, preliminary sketches. In enlarging from one sketch to another, he finds that fixed relations of color and form alter with changes in size of the entire design. Therefore, he can't simply square off a sketch he likes and blow it up, but has to change a tone here or a proportion there to achieve the effect of the original. In all but one of the four, he has settled on a black center surrounded by gray, then white; but even here he continues to find a range in the play of tones. He has experimented with different grays (in the illustration one can see two in one area, in the sketch to the right of the couch) – in the outer two sketches, sooty and deep in tone; in the others, closer to the center of the scale. The grays also vary in warmth, ranging from yellowish to bluish shades. When the artist made his ultimate selection from these, he said: "The picture is finished. All the problems are solved. Nothing remains but the execution."

In executing his pictures, he works exclusively on Masonite because he likes the "wall resistance" of boards, saying "canvas runs away from me." Preparing several boards at a time, he gives them three or four coats of Luminol casein, mixing the casein paste with linseed oil, turpentine and damar varnish "to make a fine soup." (If he used straight casein, his paintings might eventually flake off because he employs no medium while working.) Quick-drying, and still water-solvent despite the addition of oil, several coats of this mixture can be applied in one day, leaving the panels smooth, hard, and ready for use in a couple of days. After giving the back of the board an oil coat so that it won't warp, he takes his first step – the ruling of the lines with a 7H pencil.

Conceiving of the area of the picture as one hundred units (the unit, in this case, being 3¼ inches square), he allowed sixteen units for the black area, forty-eight for the gray, and thirty-six for the white, so that a cross-section of the composition would reveal the following proportions: divided horizontally – 1 to 2 to 4 to 2 to 1; and divided vertically (rising from the bottom) – ½ to 1 to 4 to 3 to 1½.

In painting, he starts from the lines, working slowly with equal strokes and equal quantities of pigment toward the center of a form. He often has to scrape off the burr at the edges of a color in his sketches, but this is not necessary here because he uses his paint thin – "just enough to cover." "It's a durable technique," he remarks, "only one coat of paint. Black, of course, loses its blackness but it acquires a 'nobler skin.'" The artist finds that different makes of black "paste" differently: "the butteriness is different." For *Homage to the Square*, he discovered a three-year-old tube that had dried out a bit. "The pigment had become stickier, harder to manipulate" – a factor Albers found useful in qualifying the surface of the central square. But he never modulates a color by his application of pigment. His impastos are kept as uniform as possible, with the barely visible tufts – "the marks of the tool" – left by his palette knife, the only variation he allows. He does not believe in juxtaposing different textures to alter the effect of drawing or tones. "Every color, every form should speak with its own voice," says the artist, who further expresses his disapproval of the use of texture by describing a varying impasto as "too painterly." However, he finds the contrast between mat and shiny surfaces very important – and a point to be considered when he selects his pigments. For the white areas in his painting, he prefers Permalba because "it's hard," but sometimes he uses Delux Dupont Superwhite Enamel, a flat paint which "stays white."

When a painting is finished, Albers designs a frame, taking into careful consideration its width and formation (he prefers beveled edges), and the color and texture of the wood – sometimes leaving it natural, sometimes polishing it or painting it himself. Occasionally he uses a strip of metal, and sometimes he just "backs" the picture so that it can be hung without a frame.

Although, throughout the development of each of his paintings, Albers' methods might seem to have more in common with the techniques of science than those of art, he disavows the attitudes of the former, stating, "Science aims at solving the problems of life, whereas art depends on unsolved problems." Thus, he considers each finished painting a variant rather than a final solution, leaving the way open for endless experiment. And the endless experiment that went before *Homage to the Square* – the interminable weighing of positions, proportions and tones, the constant comparison and selection, the amplification and condensation – stubbornly haunts this picture as three squares, reversing their offices and assuming different depths and sizes, seem to continue the flux that led to their

creation. From the ruled lines which are, at last, peculiarly gentle and tentative, to the opaque colors lying next to one another in a delicate translucent atmosphere, an unadmitted sensibility stamps each aspect of this art, denying its first impersonal impact and maintaining, finally, that no one of his quiet pictures could have been painted by anyone but Josef Albers himself.

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First published in *Art News* 49, no. 7 (November 1950): 40–43, 57–58.

Elaine de Kooning (1918–1989) was an American painter and editorial associate for *Art News* magazine. She married Willem de Kooning (1904–1997), the Dutch-American Abstract Expressionist artist, in 1943. Josef Albers invited Willem de Kooning to Black Mountain College in the late 1940s and also gave him an appointment at Yale in the academic year 1950–1951, during which he taught a studio that Albers called "the genius shop." The deliberative, subdued expression of Albers' paintings was completely at odds with De Kooning's revelation of his own hand. In her article, Elaine de Kooning commented on the tension in Albers' paintings between the abstract anonymity of geometric restraint and the expression of his shaping hand.

Correspondence between Josef Albers and Willem de Kooning (1951), Box 1, Folder 5, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Correspondence between Josef Albers and Willem de Kooning (1952), Box 2, Folder 58, The Papers of Josef and Anni Albers.

Elaine and Willem de Kooning visited the Alberses at their house in Orange, Connecticut, on May 25, 1951. Albers' guestbook 1950–1977, page 1, Box 29, Folder 10, The Papers of Josef and Anni Albers.

## John McHale

## Josef Albers (1956)

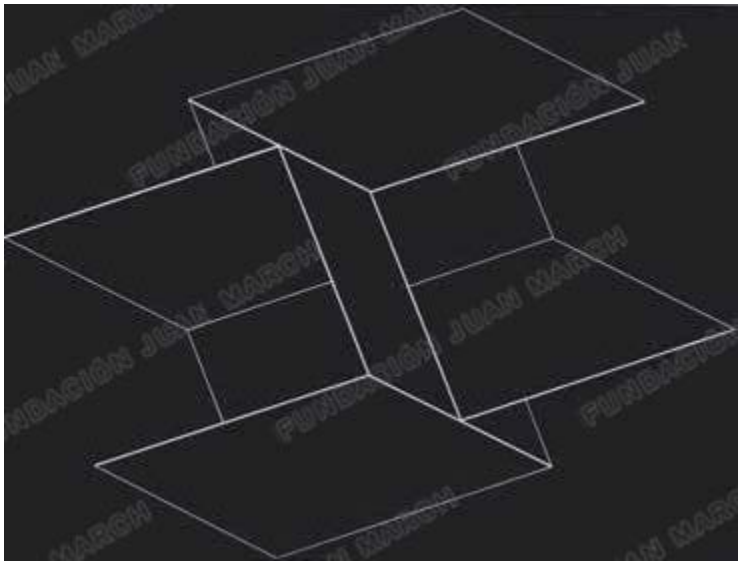
Josef Albers' reputation as educator, his long association with the Bauhaus, from 1923–1933, his work in the United States at Black Mountain College, and latterly at Yale, has tended to overshadow his personal achievement as an artist. This, despite work shown in over 600 exhibitions since 1933 (including thirty one-man shows), both in Europe and the Americas.

The present retrospective exhibition should serve to remedy this.* Housed in the new Art Gallery at Yale University, where Albers has been chairman of the Department of Design since 1950, it includes work from 1916 up to the present day, and ranges through paintings, stained glass, plastics, graphic works, typography, and projects in relation to buildings. Although retrospective in character, actual time relations are created by the grouping of types of work which reflect the preoccupations of a period and give a "truer" chronology than linkage to a date line.

Of particular technical interest to the architect are, probably, the stained glass, plastics and mural projects. The glass includes early and recent studies, sandblasting and engraving being used in relief as well as colored transparency. One piece, executed during the lean years post World War I, is made of broken glass from old wine bottles, pickle jars, etc. Plastics belong to two main series, from around 1950, titled *Transformations of a Scheme* and *Structural Constellations*. These are really a continuation of the glasswork in a less breakable form and are machine engraved and sandblasted by a commercial firm from a diagram supplied by the artist. Of the architectural projects, the best known is probably the brick mural for the Harvard Graduate Center.

Apart from the early pre-Bauhaus expressionist studies, the first overall impression, given by Albers' work assembled together, is of a puritanical adherence to early abstract dogma, with its emphasis on the pure plastic experience universally inherent in simple geometrical form, unaccentuated and mechanical line, and flat areas of unbroken color. But this feeling is dispelled by closer attention to the individual work. Whilst retaining a stylistic link with such abstraction, now largely academic, Albers has managed to avoid the fate of most of its practitioners. Though he uses grids and modules as initial bases for many purposes he repudiates any metaphysical belief attached to such usage. No reliance is placed on the Platonic absolutes – the universal harmonies of forms made by lathe or ruler – and such addiction to plain geometry as is evinced is strictly from expediency, providing merely a chosen interval on which to base his excursions.

The simplicity of the work is deliberately deceptive. One has the feeling of (as Breuer called Albers) a "frustrated architect" at work, constructing visual illusions of simple elements with intent



Josef Albers, *Structural Constellation*, n.d.
Machine-engraved plastic laminate mounted on wood, 17 x 22 1/2 in (43.2 x 57.2 cm).
The Josef and Anni Albers Foundation

to confuse, and, in so doing produce a visual excitement and tension which is contingent on the way we actually perceive. A line describes a movement but also, as we watch, moves and bends itself: an apparently stable rectangle begins to swell at the edges and fluctuate with the ground. Patient research in color perception has produced colors which blur, melt, and flicker as we observe them, in such fashion that we are forced to participate in their metamorphoses even to the point of disquiet.

Here is, to paraphrase the artist, pragmatic psychological engineering, based on the facts, as known, of visual perception – a reliance on psychophysical law rather than esthetic hypotheses. What seemed initially static, contained, dead, is seen to be self-energizing, constantly in flux and autonomous in its capacity for change. These characteristics of ambiguity, randomness (in effect, not necessarily execution), spatial and temporal illusion and interchangeability of figure and ground are those which furnish the climate of the contemporary art scene. Preoccupation with them links Albers closely to his contemporaries, and locates him firmly as a live, and vital, creative figure of our time.

* The exhibition runs from April 25 to June 19 [sic].

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First published in *Architectural Design* (June 1956): 204. Copy of the publication, Box 5, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library. The article was published as a review of the exhibition curated by George Heard Hamilton, *Josef Albers: Paintings, Prints, Projects*, at Yale University Art Gallery, New Haven, April 25–June 18, 1956 (New York: Clarke and Way, published for the Associates in Fine Arts, 1956).

John McHale (1922–1978) was a Scottish artist and sociologist, and a founding member of the Institute of Contemporary Arts in London. Along with Eduardo Paolozzi, Richard Hamilton, Alison and Peter Smithson, Nigel Henderson and Lawrence Alloway, McHale was one of the founders of the Independent Group, a British collective whose radical approach to contemporary culture emphasized found objects, the habits of everyday life, and the integration of contingent rather than ideal principles in architecture and design. In August 1955, McHale was awarded a scholarship to study with Josef Albers at the Design Department of Yale University, where he remained until June 1956. McHale then returned to London, where he took part in the Independent Group's *This is Tomorrow* exhibition at the Whitechapel Gallery, forming "Group 2," one of the twelve separate teams, with Richard Hamilton and John Voelcker. McHale's groundbreaking analysis of popular culture is exemplified in his articles of the later 1950s, including "The Expendable Ikon 1" and its sequel for *Architectural Review* in 1959.

## Hans Arp

## Josef Albers (1957)

The beautiful pictures of our ugly age should be seen and read with the eyes of a child.
The pictures of Albers are not only a treat for the eye but they also convey meaning.
They grow in profundity as they are looked at with eyes uncorrupted, and grasped penetratingly.
They are like the wood into which one calls and from which it echoes as you are called.
Like nature they are a mirror.
Each of his pictures has a heart.
They never break into bits, crumble, turn into dust.
They are not castigated lashes.

They have a clear and great content:
"Here I stand.
I am resting.
I am in this world and on earth.
I do not hurry away.
I won't have anyone harass and exasperate me.
I am not a frantic machine.
I am not faint-hearted.
I can wait.
I do not drive myself from the picture into the incommensurate.
I do not drive myself into bottomless depth."

Many of my friends and their pictures no longer want to be here.
Neither friend nor picture has any longer an existence.
They want to go to the devil.
How one longs in their presence for an Albers.
The world that Albers creates carries in its heart
the inner weight of the fulfilled man.
To be blessed we have to have faith.
This holds also for art and above all for the art of our time.
Who would have foreseen that our earth would so be led by our brain to unbelief, to noise, to mechanical frenzy, to carefully recorded raggedness, to teleguided disbelief.

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Originally published in French in *Josef Albers, Hommage au Carré* (Paris: Galerie Denise René, 1957), catalogue of the exhibition *Josef Albers, Homage to the Square,* October-November 1957. Subsequently published in the following exhibitions catalogues: *Josef Albers* (Amsterdam: Stedelijk Museum, 1961), March 10–April 10, 1961; *Paintings by Josef Albers: Yale University Art Gallery,* texts by Fronia Wissman and Gene Baro (New Haven, CT: The Gallery, 1978), February 22–March 26, 1978; *Josef Albers: A Retrospective*, ed. Nicholas Fox Weber (New York: The Solomon R. Guggenheim Museum, 1988), March 25–May 29, 1988; and *Arp, Albers: rencontre de deux amis* (Paris: Galerie Denise René, 2002), April 11–June 29, 2002.

Original German typescript, Box 85, Folder 4 (1), The Papers of Josef and Anni Albers.

English typescript, Box 3, Folder 38, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library; Josef Albers, 1929–1970, Archives of American Art, Smithsonian Institution. Signed in Ascona, 1957. Translated from the German original by Anni Albers.

Hans Arp (1887–1966) was a French sculptor, painter, collagist, printmaker and poet of German birth. A pioneer of abstract art and one of the founders of Dada in Zurich, he also participated actively in both Surrealism and Constructivism. In 1912 he met Robert and Sonia Delaunay in Paris and Wassily Kandinsky in Munich. Four years later he became one of the founding members of Dada in Zurich in 1916, and one of the participants in the Berlin Dada exhibition of 1920. Arp began to develop his personal style of abstract composition through an organic morphology and to experiment with automatic composition, relying on the strategy of "chance." In 1925 he participated in the first Surrealist exhibition in Paris before breaking with that movement to become one of the founders of Abstraction-Création in 1931. He visited New York in 1949 on the occasion of his solo show at Curt Valentin's Buchholz Gallery. In 1950, Walter Gropius invited Arp – along with other ex-Bauhaus colleagues and collaborators – to execute a relief for the Harvard Graduate Center in Cambridge, Massachusetts. Josef Albers also received an invitation to produce a work of art and contribute to the interiors of the new Graduate Center. Arp cut out a series of free shapes of plywood, placing them on opposite sides of the dining room, while Albers used bricks to create an abstract geometric wall, titled "America," behind the fireplace of the Center's Commons.

Correspondence between Josef Albers and Hans Arp (1933–1957), Box 1, Folder 1, The Papers of Josef and Anni Albers.

## Will Grohmann

### Josef Albers, Painter and Art Educator (1958)

Of all the *Meisters* of the former Bauhaus, Josef Albers was the one who had the greatest number of students and the most grateful ones. What he called *Vorkurs* (introductory basic design) and what became a model the world over, was far more than the name implies. It was a kind of topography of the landscape of art: what belongs in the hard-to-define area; how the student finds his route of travel; how he has to prepare himself for this perilous journey; in particular, who should be admitted. At first glance, all this started quite modestly and the layman did not see much in it. To the layman it was an apparently useless and merely playful tinkering with highly diversified materials (paper, corrugated paper, wire, razor blades, match boxes). It showed constructions in lineal juxtapositions and rectangular planes, using little color. It was ascetic in every respect. But the result was insight into the basic principles of artistic creation. Whoever succeeded in his work with Albers reached at least one of the possible goals, if not in the fine arts then another in industrial design, architecture, or the crafts. The architects who owe him enlightenment are as many as the painters or sculptors.

Albers studied at the Bauhaus in Weimar and with the transfer of the Bauhaus to Dessau, became a *Bauhausmeister*, remaining with the school until it was dissolved in 1933. In the same year he emigrated to America and became a professor at the famous Black Mountain College which owed him its physiognomy. Since 1950 he has been at Yale University and chairman of the art department. Presumably he will retire from his teaching job after his seventieth birthday, though not from painting. Above all he is a painter. Because he is a dedicated artist he has also been an outstanding teacher.

For thirty years his painting has been a profound exploration of the basic problems of visual formulation. He has been seeking always the greatest simplicity, though not simpleness. And always he limited himself to a minimum of means but not to a minimum of meaning. He has not been interested in innumerable themes but in innumerable investigations and solutions and the ultimate sense of such doing.

His theme has been the analysis and presentation of geometric shapes and planes and he was led thereby from addition and summation to multiplication and wholeness. This wholeness realized space as we have come to know it in terms of visual and psychological experience, space which is in us and around us. It is a space which, projected on a plane, does not run counter to mathematical laws nor to our belief in the inexplorable. The numerical element, in the work of Albers, turns into magic. Out of self-imposed restraint he arrives at marvel and wisdom. What most observers perceive merely as mathematics is mathematics in the sense of the poet Novalis who saw in it the highest poetry, conveying the incomprehensible and incomparable. Westphalians, like Albers, are fond of border cases, the seams binding the Here and There, the tangible and the intangible.

What looks so modest, what has outwardly changed so little in the course of thirty years, is a very essential part of our artistic development, from the turn of the century up to the last meaningful formulations of insight, which are established beyond doubt.

In the world of Albers the difference between intuition and perception, between creating and searching is no longer so great. In that world a synthesis is initiated of which Kandinsky already dreamed at the time of the "Blue Reiter" and which he reached in his last Paris epoch in his own way.

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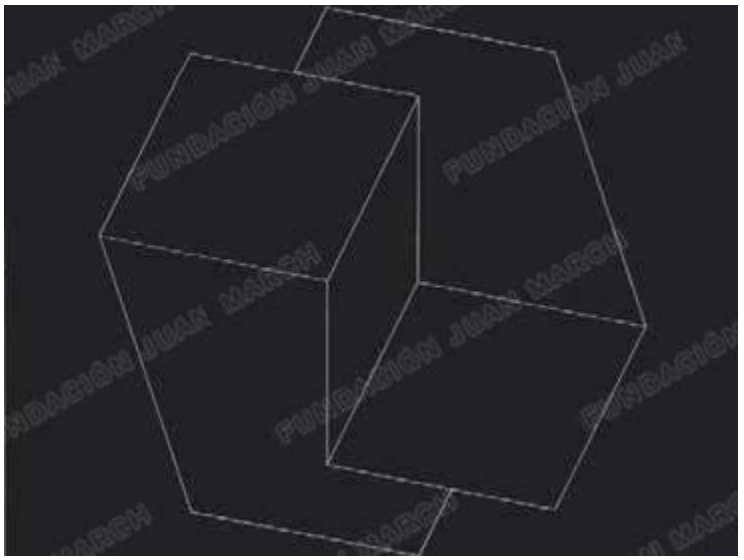
Originally published in German as "Josef Albers, Maler und Kunstpädagoge" in the newspaper *Frankfurter Allgemeine Zeitung*, March 19, 1958. English translation published in "A Tribute to Josef Albers on his Seventieth Birthday," *Yale University Art Gallery Bulletin* 24, no. 2 (October 1958): 26–27.

English typescript, Box 3, Folder 38, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Will Grohmann (1887–1968) was a German art historian and an influential curator, educator, and author. As a curator and critic in the 1920s and early 1930s, Grohmann wrote extensively about German Expressionism and the work of artists and designers affiliated with the Bauhaus. In the post-World War II period, he became a prominent advocate for modern German art worldwide, penning books and articles on Albers, as well as Kandinsky, Klee, Schlemmer, and scores of artists. Among others, in 1962 he published the book *Painters of the Bauhaus: Albers, Bayer, Feininger, Itten, Kandinsky, Klee, Moholy-Nagy, Muche, Schlemmer* (London: Marlborough Fine Art, 1962). Grohmann's role in reconstructing the history and esthetic importance of German Expressionist art in the post-war era was especially decisive. Through his survey histories of the movement, monographs on Ernst Ludwig Kirchner and Karl Schmidt-Rottluff, and essays on artists such as Ernst Barlach, Otto Dix, Alexej von Jawlensky, and Emil Nolde, Grohmann helped to reestablish German Expressionism as an important modernist movement, and to link the historical development of pre- and post-World War II German art. In 1966, Grohmann invited Albers to write a short homage text on the work of Kandinsky, for the hundredth anniversary of the latter's birth (for a full reproduction of this text, see p. 317).

Correspondence between Josef Albers and Will Grohmann (1958–1968), Box 2, Folder 62 / Box 4, Folder 20, The Papers of Josef and Anni Albers.



Josef Albers, *Structural Constellation U-12*, 1955. Machine-engraved plastic laminate mounted on wood, 19 1/8 x 25 3/8 in (48.5 x 64.5 cm). Haus Bill, Zumikon, Switzerland

## Max Bill

### Josef Albers (1958)

In the generation of artists who are presently in their seventies, Josef Albers (1888[–1976]) and Georges Vantongerloo (1886[–1965]) occupy a special place. Whereas Pevsner (1886[–1962]), Arp (1887 [–1966]), Chagall (1887[–1985]), and Morandi (1890[–1964]) long since found their permanent personal style, Albers and Vantongerloo continue to experiment. For that reason they seem to us younger artists as virtual contemporaries, with whom one can discuss common problems. Doubtless this also has to do with the fact that both work according to concepts and employing methods especially relevant to our time, and are particularly in tune with our present-day esthetic concerns.

If one thinks of artworks as "information carriers" (Max Bense) or "objects for intellectual use" (Max Bill), it is self-expanatory why those from the middle and younger generations in search of objective value standards feel themselves in harmony with precisely these two older masters, Albers and Vantongerloo.

Just as the late Claude Monet and the early Kandinsky anticipated in around 1912 what we now call Tachism and think of as current, and just as Kandinsky subsequently recognized it as subjective expressionism and abandoned it, the younger pioneers after Mondrian, namely Vantongerloo and Albers, have become models for an entire later generation – with the distinction that up until very recently they themselves have continued to add their own new contributions to developments in art.

Although the self-referential, bravura gesture displayed in Tachism is met with considerable interest today and surely has a healing effect as an act of liberation from an ossified geometrization, it is no secret that this kind of "liberation" is countered by an entirely different, genuine liberation – namely from excessive subjectivity. The latter seeks in painting, with the resources of art, more than a personal manifestation – it seeks universally valid esthetic information with the aim of achieving an equally universally valid esthetic communication.

If we grant that an artwork has esthetic significance, we have to ask ourselves what it communicates beyond such esthetic significance. This "other" could be content of any kind, that is communication = information, about anything at all. This sort of pictorial communication can lead from the symbol with the quality of a sign (hieroglyph, ideogram) to the depiction of a true or imagined event (Giotto – Picasso – Dalí), to the sort of picture organization we know from concrete art, that is to say to the symbol for realities that cannot be presented except in a visual-esthetic way, for the interpenetration of red and green can be perceived esthetically neither as a mathematical

formula nor as a literary description, but only by their presentation *in concreto*.

There is no question but that such esthetic information is based on the arrangement of the pictorial elements, their size, their position, and their mutual relationships. Max Bense designates this in *Aesthetica* II and III as a physical process, or at least something comparable to one, and thereby approaches – from the opposite side – the point that I refer to as the "picture's autonomous effect," namely as "energy source." That is to say an object that emits energy, in rhythms established by the picture organization. This energy is created by the vibrations of color themselves and by the interplay of the color vibrations as a whole, which can also ultimately be described as a physical-physiological process.

The works of Josef Albers are particularly fine examples of such an approach, for they are reduced to the most elementary formal elements and in their colors they exhibit a particular delight in experimentation.

Only since 1956 has Albers once again made an appearance in exhibitions in Europe. The first of these was held in May and June of 1956 at the Kunsthaus Zürich (together with the other European-American Fritz Glarner and with the addition of Vordemberge-Gildewart). This was followed by a series of shows in Germany (in Hagen, Wiesbaden, Ulm, Freiburg im Breisgau, and elsewhere) and also a first exhibition in Paris (at Denise René's). The year he turned seventy (on March 19, 1958) a few others followed. Although Albers is one of the artists most featured in one-man exhibitions in the United States, in Europe he first had to be rediscovered following his emigration to the United States in 1933.

He had once formed part of the Bauhaus, first as a pupil of Klee and Kandinsky, later as a master. Before joining the Bauhaus he had earned a diploma in art pedagogy at Berlin's Academy. His qualifications, as well as his fortunate encounter at the Bauhaus with Klee and Kandinsky, and his engagement with the ideas represented by Theo van Doesburg in de Stijl, predestined him from the start as a teacher. Already at the Bauhaus he taught the elementary course, then at Black Mountain College and Yale University he trained almost two generations of designers – meanwhile accepting guest lectureships of shorter or longer duration in Chile, Mexico, and Hawaii, among other places, and bringing his rich pedagogical experience to the first two years of the Hochschule für Gestaltung in Ulm [Ulm School of Design].

At the same time, his extensive pictorial oeuvre of exemplary consistency and beauty was growing. Before arriving at his "thermometer style" with his famous glass paintings around 1923, he had cultivated a tamed, almost Feininger-esque Cubism, then after 1930 he occupied himself with a great variety of painterly problems. Of particular importance in recent years are his *Homages to the Square*, in which, within a structure of extreme simplicity – which altogether admits seven variant groupings, of which he uses four – he has created a large number of colored panels.

His concentration on such a reduced subject matter is reminiscent of Asiatic cult pictures, and in their effect they radiate something that places them on a level with Tibetan mandalas. There is also a certain degree of humor involved: what Klee called playing "[an unknowing game] with ultimate things," surprising the viewer, the picture puzzle aspect. At times one cannot tell what is foreground and background in these pictures, whether they are flat or three-dimensional. There is something undefinable about them, and yet they remain rational. A step further in this sense are his *Structural Constellations*, with their white lines engraved on a reflective black ground. Pseudo spaces that could be imagined as depictions of the fourth dimension on a plane. Spaces that cannot actually exist, the reality of which is dependent on the application of artistic devices, whose esthetic value is equivalent to the value of the esthetic information they impart.

These pictures by Josef Albers incorporate the most up-to-date issues of present-day interest, presented in an objective manner. Their poetry is only revealed by daily association with them. In them our attention is not drawn to transient excesses with fanfares and wild gesticulations. These are symbols of the serenity of the elemental structure of the world.

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First published in German in *Werk* 45 (Winterthur), no. 4 (April 1958): 135–38.

Max Bill (1908–1994) studied at the Bauhaus in Dessau from 1927 to 1929 under Josef Albers, Wassily Kandinsky and Paul Klee, among others. From 1932 to 1936 Bill was a member of the Parisian group of artists Abstraction-Création and in 1944 he founded the journal *abstrakt konkret*. After World War II, works by Albers, Bill, and Hans Arp were exhibited together at Galerie Herbert Herrmann in Stuttgart (exh. cat. *Josef Albers, Hans Arp, Max Bill*. Stuttgart: Galerie Herbert Herrmann, 1948). As spiritual father and architect of the Ulm Hochschule für Gestaltung, and as principal and head of the Department for Architecture and Product Form from 1952, Bill tried to continue the traditions of the Dessau Bauhaus. In the summer of 1953, Bill and Albers met in Lima during Albers' first and long-awaited trip to Peru. There, Albers accepted Bill's invitation to teach at the newly founded school in Ulm, and during the following winter Albers returned to Germany for the first time since the war. Albers taught in Ulm for two months, from November 24, 1953, to January 23, 1954, and wrote a report of his teaching that was published in 1967. On February 21, 1969, Max Bill gave a lecture at the Deutsche Gesellschaft für Bildende Kunst (Kunstverein Berlin) for the opening of Albers' eightieth anniversary traveling exhibition in Berlin.

Correspondence between Josef Albers and Max Bill (1961–1972), Box 1, Folder 46, The Papers of Josef and Anni Albers.

## Eugen Gomringer

# Abstract Compositions on Opaque Glass: The Glass Paintings of Josef Albers (1958)

*It is obvious that compositions of a wholly different character can be created even by purely formal means and with calculable shapes.* Glaswelt *once again takes up a way of working with glass and processing it that lends itself to inexhaustible variations. The pictures reproduced here date from the Bauhaus years.*

### The Glass Paintings of Josef Albers

Josef Albers, the former Bauhaus master who now lives in America, was invited to teach as a guest lecturer at the Hochschule für Gestaltung in Ulm [Ulm School of Design] in 1953 and 1955. Since then the art world has been reminded of his name and his work thanks to several exhibitions in Germany, Switzerland, and France. Albers left Germany in 1933, when the Bauhaus, after moving from Weimar by way of Dessau to Berlin, was closed and the work of its artist-teachers (Klee, Kandinsky, Feininger, Schmidt) denounced as degenerate. In short order his work met with the greatest respect in the United States. At the beginning of his stay in America he developed a course in fundamentals similar to the one at the Bauhaus for the new Black Mountain College in North Carolina. For years he taught as a guest lecturer at various universities and institutes in North and South America, and finally in 1950 he assumed a professorship at Yale University, becoming one of those responsible for the visual education of an important sector of academic youth in America. At the end of last year it was announced in the press that Albers had been awarded the Cross of Merit, 1st Class, of the Federal Republic for his decisive promotion of German painting in the United States. Now his name, his work, and his basic pedagogical approach are again being celebrated in Germany.

If one surveys Josef Albers' entire oeuvre as represented by the numerous excellent, representative pictures in recent exhibitions, one readily notes the difference between his European period – up to 1933 – and his subsequent American years. Albers considerably expanded the scope of his work in America, especially in terms of color. He nevertheless brought with him from the Bauhaus a conceptual rigor and sense of the fundamental relationships between art and life. His European period is best represented by his glass pictures, and to anyone interested in Bauhaus art in general they have become iconic. In them a respect for the material and its uses as demanded at the Bauhaus is expressed in the purest artistic form. With their strict sense of form and flawless craftsmanship they are of the greatest interest to both art teachers and museum directors.

Albers created pictures out of both opaque and transparent glass. The former are wall panels, the latter traditional windows. Both were the result of thorough study of the material and the type of composition to which each kind of glass lent itself. In this field Albers is one of the most important artistic innovators of the century. As director of the glass workshop in Weimar he became familiar with the problems associated with the use of glass in art and had an opportunity to experiment with the medium.

The glass wall panels represent a new kind of picture in that the glass, no longer associated with the passage of light through a window, is completely opaque and used to create works akin to panel paintings. These works are composed of single-pane pictures of opaque milk glass flashed with color, mostly black and red. In terms of technique, the material allows for razor-sharp contours and precisely-defined separations. This in turn calls for clear, balanced compositions, the most exact drawing, and precise cuts. The shapes in the composition are influenced and limited by the brittleness of the material and the fact that the color cannot be modulated. In return, the intensity of the color – deepest black, purest white – is very great. Josef Albers' glass wall paintings still accessible to the public in Europe are some of the most beautiful artistic treasures from the 1920s and from the Bauhaus in particular. Their spirit is expressed in a title like *Fugue*, a glass picture that in its clarity and purity of feeling and construction can be compared with the greatest works of European art. It is unquestionably true that these glass creations have never been so admired as they are today, and especially in these lines; yet the present writer is convinced that of all Albers' work they still have not met with the respect they deserve. Even if one knows nothing about Bauhaus teachings one cannot help but sense the great expressiveness of abstract forms, the immediacy of rhythmic arrangements, the forever changing interplay between horizontal forces at rest and thrusting vertical ones. And nothing is indistinct, everything is technically precise.

Most of the window paintings date from the period from 1920 to 1923, the first years of the Weimar Bauhaus. Since they are translucent, they exhibit more varied coloring than the wall pictures. In terms of composition, however, they employ similar arrangements. Especially interesting are the so-called shard pictures – which have not been included in European exhibitions to this day, as they bring to mind the inflation years. For lack of other materials, they often made use of fragments of bottle glass mounted in equally makeshift grids.

The shapes in both kinds of pictures were produced by stencil cutting and sandblasting. Albers felt that sandblasting was preferable to acid etching as it was more precise. When he had painted on colors, he sometimes had the glass plates baked in a muffle furnace to make them more durable.

Their precise shapes, their rational compositions, and their faultless technique make these glass pictures of particular interest

especially today. In formal terms they are without mystery, so to speak, yet they exert an appeal that is not confined to their two-dimensional surfaces.

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First published in German as "Abstrakte Kompositionen auf opakem Glas: Die Glasbilder von Josef Albers" in *Glaswelt* 2 (Stuttgart), no. 17 (November 1958): 14–15.

Eugen Gomringer (b. 1925) is a Swiss-Bolivian poet. Gomringer met Josef Albers at the Ulm Hochschule für Gestaltung, where Gomringer worked as Max Bill's assistant from 1954 to 1957. Together with Bill, Gomringer was among the early practitioners of concrete poetry, a practice developed in analogy to concrete art. In his poems, Gomringer plays with the materiality of writing. At around the same time as his essay on Albers' glassworks, Gomringer wrote four of his most relevant texts: "From Line to Constellation" (1954), in which he began to consider the esthetical object as a functional object; "Concrete Poetry" (1956), "Max Bill and Concrete Poetry" (1958), and "The Poem as Functional Object" (1960). Gomringer is co-author of the monograph *Josef Albers: His Work as Contribution to Visual Articulation in the Twentieth Century* (New York: George Wittenborn, 1968); French ed., *Josef Albers: son oeuvre et sa contribution à la figuration au cours du XXe siècle*. (Paris: Dessain et Tolra, 1972); German ed., *Josef Albers: Sein Werk als Beitrag zur visuellen Gestaltung im 20. Jahrhundert.* (Starnberg: Josef Keller, 1971). From 1977 to 1990 he was a professor at the Kunstakademie Düsseldorf arts academy. In 2000 Gomringer founded the Institut für konstruktive Kunst und konkrete Poesie in Rehau, Germany. He writes in German, Spanish, French and English.

Correspondence between Josef Albers and Eugen Gomringer (1957–1975), Box 2, Folder 62 / Box 4, Folder 14, The Papers of Josef and Anni Albers.

## Dore Ashton

## Albers and the Indispensable Precision (1963)

Josef Albers celebrates his seventy-fifth birthday with a glorious burst of his always-phenomenal energy. He brings out his magnum opus, *The Interaction of Color*, a treatise on his lifelong studies published by Yale University Press. He designs a cover for an art magazine, excerpts passages from his book for their pages, and at the same time stages a splendid exhibition at the Janis Gallery.

Albers' role in American painting – as a painter, teacher and philosopher – must not be underestimated. Countless young men and women have known the severity of his disciplined thinking, the passionate addiction to reasoned principles, and the insistence on practical experiment which was the basis of his program at Yale. The "facts" they learned about paint and color may not be apparent in their work, but lie below the threshold in their imaginations, guiding their hands toward the indispensable precision even an abstract expressionist needs.

"In the end," Albers concludes his excerpted article, "teaching is not a matter of method but of heart." And in the end, it can be said, apprehending Albers' paintings is not a matter of understanding his method so much as being moved by the amount of "heart," or tender sensuousness he brings to them. "Form," he says, "demands unending performance and invites constant re-consideration – visually as well as verbally."

His own obsessive reconsiderations, in the form of his now famous *Homage to the Square*, are more easily assessed visually than verbally. It is easy to be delighted by the unique harmonies Albers exacts from the spectrum, and easy to be drawn into the subtle optical movement. But it is not so easy to verbalize the emotional response. One could follow Albers' directions and analyze each of the color elisions and distinctions in a scientific, experimental mode. But the increment of feeling these paintings undeniably emanate remains outside of such considerations. A tender pale, pale orange square suspended in neutrals, or a brilliant canary yellow played against a white are compelling because of their paradox: they speak of mystical fixity and yet they move, they breathe, they take on the lineaments of organic being. Albers paints squares, and in his obsessive fixations, paints more than squares (as some of his titles indicate: *Fall Finale*, *Orangery*, *Stepped Foliage* and *Arranged Foliage*).

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First published in *Studio* 165 (June 1963): 252–55, as part of an extended general survey on New York Art Galleries. Josef Albers' work gave the article its title, although it was only covered in the first part of the text.

Dore Ashton (b. 1928) is an American writer, professor and critic of modern and contemporary art, and one of the few remaining critics from the Abstract Expressionist era. She is the author or editor of more than thirty books on art, including *Noguchi East and West*, *About Rothko*, *American Art since 1945*, *The New York School: A Cultural Reckoning*, *Picasso on Art*, and *A Reading of Modern Art.* Her writing covers the rich history of a mid-century movement, combined with exciting first-hand knowledge of interactions with those who propelled Abstract Expressionism to wide acclaim. Born a generation after the influential critics Greenberg, Rosenberg and Schapiro, Ashton walked a fine line between the outsider historian who watched the style evolve and the insider intellectual who conversed one-on-one with those creating the work. Ashton was a trusted compatriot and champion of those artists who, even at the height of their critical fame, still felt socially and culturally isolated. She was one of the New York art critics who championed the New York School. Ashton has contributed to many publications including *Art Digest* and she has worked as an art critic at the *New York Times*. She has won many awards and recognitions, including a Guggenheim Foundation Fellowship in 1963 and 1969. Ashton is professor of art history at the Cooper Union in New York and was appointed senior critic in painting/printmaking at Yale in 2002.

Correspondence between Josef Albers and Dore Ashton (1965–1968), Box 1, Folder 22, The Papers of Josef and Anni Albers; Dore Ashton papers, 1931–2010, bulk 1952–2010, American Archives of Art, Smithsonian Institution.

## Robert Le Ricolais

## Reflections on the Graphisms of Josef Albers (1967)

*Josef Albers will be eighty years old on March 19, 1968. Certainly his artistic achievements will be acknowledged widely on this occasion. The following text by Robert le Ricolais explains certain aspects of Albers' work as filtered through an advanced and strictly scientific mind operating outside the usual art historical and critical field.*

*Robert le Ricolais (of French origin, and now teaching at the University of Pennsylvania) is an engineer dedicated to the creation of space structures and a pioneer in the use of topology as a mathematical tool of calculation. In 1962, the French Minister of Culture, André Malraux, presented him with the Grand Prix d'Architecture as "father of space structures" whose "concepts have influenced the greatest architects." Robert le Ricolais, on the other hand, is also greatly interested in art. And from his specific background he is developing methods to investigate the experiments of artists like Albers.*

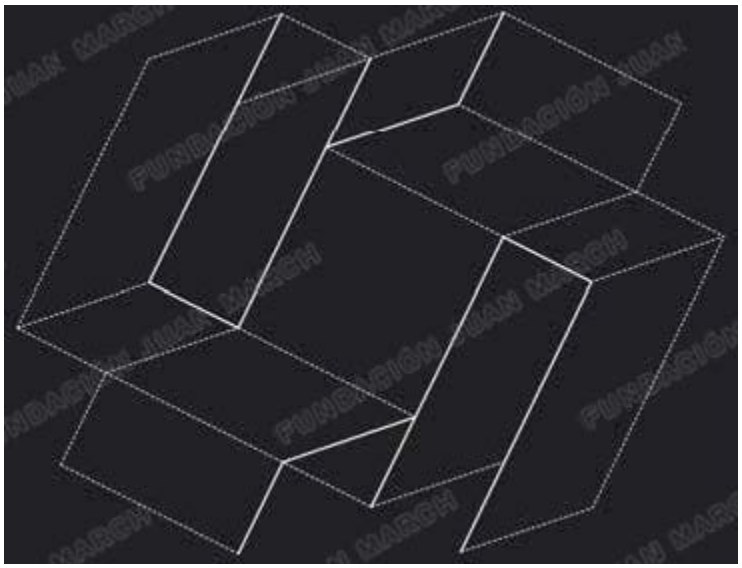
*A short part of Le Ricolais' text will appear in the original French in the book "Josef Albers –Graphic Tectonic" which I have edited for Galerie Der Spiegel, Cologne. In order to give both Albers and Le Ricolais full credit, the text is printed here in full.* – Margit Staber

Just as "A throw of the dice will never abolish chance," so too esthetics will always resist reduction to a formula. It may be of some interest, however, to clarify the idea of the "model," which frequently forms the basis of our impressions.

In his work or morphology (published by Gauthier-Villars), Monod-Herzen describes the influence of mathematical forms on art, as seen in the style of drapery (to consider the example of the catenary curve) and also in the origin of numerous decorative motifs inspired by the so-called elastic curves. Thus we are dealing with a language, a semiology, in which the repetition of an observation will simultaneously enrich our eye and our mind.

It is troubling, is it not, to find existing from the very beginning of Prehistory the association (or, better, the dependence) between the model and a copy – that is, a *repetition,* identical to the one which an indolent automatism has caused to degenerate into academicism. The interpretation of the sign is a conjectural matter, for the process of representation is dominated by the unconscious impulses of the maker, and as a result involves the unknown factors of the personality. To define Chardin as a "painter or man of the inner life" contributes little to art criticism.

In any event, the Aristotelian notion of analogy lies at the origin of a relationship, that is, of a comparison between the signifier and the



Josef Albers, *Structural Constellation*, 1962. Machine-engraved plastic laminate mounted on wood, 19 1/4 x 25 3/4 in (48.5 x 65.4 cm)

signified. The word "like" introduces a primary parameter of order, defining the capacity of the spectator – a preliminary to the "as if" which already delineates mental curiosity and the beginning of a "why."

So we shall not explain why Josef Albers is concerned not with painting still lifes, but rather with schematizing the methodical procedures which affect not only inorganic matter but also their resultants, which themselves directly and organically involve our perceptions.

* * *

The existence of a quasi-automatic "trigger" between the painter's work and the spectator's eye and mind is a fact too obvious to require repetition. We are obliged to note, however, that this silent creator-spectator dialogue lacks a kind of "feedback": that is, the creator's reaction to the lack of comprehension and, in certain cases, the hostility of the spectator. This is why we see, in the pictorial experiments of today, the introduction of movement which arouses combinatory multiplicities possibly capable of stimulating reactions of sympathy or at least of curiosity. Albers challenges this facile method, this stratagem.

In order to understand his strategy, we must ask the question in another fashion, and endeavor to substitute our person for that of the creator, to penetrate not only the work of art itself, but also the mind of its creator – without his knowledge, I might say.

* * *

Simplifying to an extreme degree, I believe I see in the ensemble of Albers' works the establishment of the phenomenon of crystallization. This intimately concerns me, for like many other people I feel it is essential to question, and answer, this attraction of *repetition*, to concern myself with these resemblances of forms independent of dimension (which are called, in the jargon of the geometer, "automorphisms"), and which is but one example of the application of a fundamental principle of mathematics: the search for what remains constant throughout the changes in the factors of the problem. In this process we can see the appearance of the philosophical and almost universal search for the nucleus or basic cell which is the source of all becoming.

* * *

The universe of Albers possesses a very characteristic topology.* He dissociates the line from the point; his spaces are usually blocked or closed. Note that Albers does not explicate the point, that is, the meeting place of straight lines. In his work, straight lines most frequently meet at right angles.

The Albersian space is generally, therefore, an enclosed space, varying in typographic density but always having an orderly structure. One of its many objectives is the obtaining of relief effects by modulation in thickness of stroke. We are led after a fashion – very approximately, moreover – to evoke the Riemannian concept of the surface.

The concept of volume, or passage from plane to space, is explicated by a subtle displacement of lines.

A dominant feature of these graphisms is the absence of interlacings, and hence the rejection of embellishment, which results in a certain ascetism of composition in which the effect of excessively symmetrical balance is skillfully broken by the presence of differentiated spaces.

The dominant trait seems to me to be the inclusion of closed spaces. Here we touch upon the specificity of the *secret*, and on a dominant of the aristocracy of space which is occasionally encountered in Japanese temples. Several seals must be broken in order to reach the sanctuary. Occasionally we discover this same playfulness in Islamic art, which is more inclined toward the sensual seduction of curves – replaced here by the austere orthodoxy of the right angle.

* * *

If we are willing to admit that dimension is the genuine aristocracy of space, because of the increased number of possible combinations, we are obliged to admit that thanks to the illusion of dimension, and using a minimum of elements, Albers presents us with the greatest combinatory wealth – whence the almost infinite number of crystallizations.

Thus we are in the presence of a special formal universe, the psychological allusions of which unfold with perfect coherence – a superb chess game for the alert spectator.

* This topology is easily defined as follows: The point being absent, the Euler relation, in which $P$ is the number of areas, and $E$ the number of segments, is reduced to $P - E = 1$. In other words, the number of areas corresponds to the number of segments (or rings) plus 1. It is interesting to note that the dual becomes $P' = E' = P - 1$, the dual being the starting situation minus one unit.

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Originally written in French as "Reflexions sur les graphismes de Josef Albers," June 1967. Robert Le Ricolais included the following letter with his text:

Orvault-Bourg — 44 Loire Atlantique

Dear Josef,

I am not sure that the enclosed paper will be of great interest, for you or for some eventually courageous readers – I thought French could be a better medium than my dubious English.

The only excuse is that this appreciation gave me the pleasure to ponder a little more on your beautiful work.

Do not hesitate to correct my mistakes and discuss further some other possible issues.

With my admiration and regards,

Very truly yours,
R. le Ricolais

Excuse the poor presentation.

Typescript carbons, Box 6, Folder 15, The Papers of Josef and Anni Albers.

Published in English as "Reflections on the Graphisms of Josef Albers" and in German as "Betrachtungen über die Graphiken von Josef Albers," *Art International* 12, no. 3 (March 20, 1968): 36.

Robert Le Ricolais (1894–1977) was a French architect and engineer who studied and worked in his native country until his mid-fifties. In 1951 he moved to the United States, where he started an academic career conducting "experiments in structures" workshops at the University of Illinois-Urbana, the University of North Carolina, Harvard University, the University of Michigan, and the University of Pennsylvania. In 1954 he joined the faculty of Penn's Department of Architecture in the Graduate School of Fine Arts, where he developed a strong professional relationship with Louis Kahn. He was appointed to the Paul Philippe Cret chair in 1974, and continued teaching until he retired in 1975. Le Ricolais' importance in the field of structural engineering derives mostly from publications on his "way of thinking" and on the experimental structures he developed over twenty years of research at the University of Pennsylvania. In 1940 his work on three-dimensional network systems introduced many architects to the concept of "space frames." Le Ricolais based his unusual forms on scientific studies of geometry in nature and entertained the idea that technology, if used correctly, could create a better world. Le Ricolais was also very interested in art and, making use of his scientific background, developed methods to investigate the experiments of artists like Albers.

Correspondence between Josef Albers and Robert Le Ricolais (1955–1973), Box 6, Folder 15, The Papers of Josef and Anni Albers.

## Jean Clay

# Albers: Three Stages of a Logic (1968)

The considerable oeuvre of Albers, so little known in France yet so decisive for the evolution of modern art, can only be understood when seen from a double perspective. On the one hand, one has to trace the important events of the time, in which he created his first works, and on the other hand to show the impeccable logic which through half a century, during three successive metamorphoses, always brought him back to his fundamental problem: the instability of the form, the questioning of the static character of painting.

In 1920, when Albers entered the Bauhaus as a student, an almost general doubting had befallen the avant-garde artists. The painters who were sensitive to the uprisings, to new scientific theories, political turbulences, war memories, the new spectacles on the streets, who were responsive to the Futurist, Dadaist, and Constructivist manifest, rejected compositions which are neatly arranged on the canvas, this dead object which only served as a ground for arbitrary, stiff forms. The old concept, called "figurative" was already losing ground to the lyric works of Kandinsky, Picabia, and Kupka. The Futurists already had proclaimed that "motion and light destroy the materiality of the object." At the same time, however, Delaunay begins to compose his paintings like a "set course" where the eye proceeds from spiral to spiral, from curve to curve, similarly to a tumultuous cavalcade where we are thrown "with reins flying" from one corner of his paintings to the other.

Malevich painted his *White on White* in 1918: An experiment to show the evaporation of matter, the destruction of the form by light, and the dissolution of the square in the immensity of the cosmos. The theme of the "transparency" which will be taken up soon by Lissitzky and Moholy-Nagy. In each instance, we encounter the same effort to question the density of matter. Various ways are tried out; first, the support is attacked: by Wilfred with his *Clavilux* and his moving projections of light in 1922; the very same year by Hirshfeld-Mack and Schwerdtfeger from the Bauhaus, with their moving forms on a translucent screen; while still in 1922, Moholy-Nagy begins experimenting with his [*Light-*]*Space Modulator*.

In 1919, Eggeling added abstraction to the movie with his *Horizontal-Vertical* [*Mass*] which was soon taken over by Richter. Here too, the effort lies in activating the form and in adding a dimension of time which will add sincerity. The de Stijl group, on the other hand, is researching the possibilities of an optic art based on the response of the retina – especially since 1918 (Van Doesburg: [*Rhythm of a*] *Russian Dance*; Mondrian: *Lozenge with Gray Lines*). This formula will be taken up by Kandinsky in 1927 with his *Square* and which Duchamp will conclude from 1925 on thanks to his *Rotary Demisphere (Precision Optics)* which evokes – by circular motion – steep fictitious depths. (The same Duchamp suspended the realization of the *Big Glass* two years earlier; he had specifically wanted it transparent so that the elements which were changing in reality such as the decorations in the museum, the visitors, etc., could fuse with the immobile elements the artist had inscribed on the surface.)

The same adventure, therefore, unites these artists shortly before and after 1920, transcending their differences in technique; they are trying to drop the fixed form, to leave the static painting and all its fictitious objects of a world which was believed to have been immobile for too long. This evolution resembles the sculpture where the structure wins over the mass (Tatlin), the transparency over the opaqueness (Plexiglas, Rhodoid,[1] etc.), the actual volume over the fictitious one (Gabo). These years of effervescences are the beginning of a general sliding of art as matter towards art as energy, of static towards kinetic art, of art transposing reality toward art containing all spatiotemporal dimensions.

Albers will be among the first in this search and will be the most logical one in pursuing it, first in Germany, then, for more than thirty years, in the United States, first at Black Mountain College, later in his small studio in New Haven, where he is still working.

In 1921, at the Bauhaus, he created his first glass paintings, consisting of irregular pieces of glass broken from bottles he had collected in the city dump. They were arranged irregularly on a plane, like a stained glass window. Paul Klee admired them and had one sent to the Secession Exhibition in Munich. It was refused, however, because "It was not painted."

Nevertheless, this was one of the earliest kinetic experiments in contemporary art. The surface changes constantly under the various influences of light. The artist adapts a medieval technique to a modern concept. Already in the 12th century man considered light as a sign of dematerialization – as a means to transcend the earthly opacity, as was pointed out by Panofsky in his biography on Abbot Suger of St. Denis. For them, however, light meant above all a spiritual elevation, the desegregation of the solid in the heavenly breath, matter dissolving in heavenly "Claritas." The "True Light," on the other hand, escaped the contingency only to adhere more strongly to the matterless infinite of divinity. The rays of the sun, penetrating the glass, were reminders of the constant presence of the Pater Luminum, of the God of all Light.

The glass paintings which Albers created in Germany from 1924 until 1925, however, have another message. They are mainly translucent compositions of geometrical and optical design – many of which the artist still preserves in New Haven. They belong to the key words of modern art. For Albers, the light is not a sign of the divine but a physical means to introduce an unpredictable, changing element into painting, to introduce the factor of constant transformation of the bi-dimensional surface. He wants to free the plane from its ambiguity: the light is a convenient medium to demonstrate (thanks

to its transparency) the kinetic instability rather than a symbolical idea. Furthermore, it is interesting to see that at the same time, Albers is experimenting with his students in the introductory course at the Bauhaus (which will make him internationally known as a pedagogue) in optical illusions, in the relationships between two and three dimensionality, in false perspectives, *trompe-l'oeil*, etc. Here is already a beginning of the future development.

In 1933, the Bauhaus succumbs to the attacks of the Nazis and closes down. Albers is invited immediately to the United States to teach. Here begin the exciting years (1930–1935), where the artist, almost despite himself, with the help of daily coincidences, has to redefine his fundamental search through new materials. One has not stressed this continuity enough: from the beginning of his American period, "isorel", oil painting, and soon etching follow the stained glass: "I taught in North Carolina," explained Albers, "I did not have the materials any more which I had used at the Bauhaus, therefore, I substituted others for them and continued my search with those." His problem: always the same, the instability of the surface. In 1935, he begins to paint "copies" in oil of his stained glass paintings which were either broken or left behind in Germany. The effect of the metamorphosis, however, is not the same, because oil painting does not have the same characteristics as transparent glass.

Here then, the artist's ingenuity takes over. In order to move on, he invents new media. In 1932, he takes up a graphic scheme which he had elaborated in Germany: the "treble clef." Based on this constant topic, he develops a series of eighty exchangeable variants. This is at the same time the first example of a sequence within abstract art: four colors: one black, two grays, one white are always arranged in a different way on one and the same basic design. It is as if the artist wanted to create a "film" consisting of eighty shots of the successive metamorphoses of one common surface.

In the future, Albers' problem will consist of reducing these various surfaces to one without leaving the principle of the metamorphosis.

In his search, he evolves graphic constructions and paintings which have to be looked at successively. From 1939 on (with *Equal and Unequal* [see cat. 27]) Albers proposes isometric forms, anti-Euclidean machines based on visual illusionism: one can read them either as concave or convex. Each surface has simultaneously two possible directions and the whole picture, therefore, either recedes (concavity) or protrudes (convexity), depending on which way one looks at it. "As you can see," says Albers, "I need no actual motion in order to move the picture."

The transparent glass (first stage) as well as the ambivalent forms created in the United States (second stage), however, basically show the same problem. With the series of linear optics (1942), the *Vice Versa* (1943), the *Kinetic* (1945 [see cat. 37]), and the *Indicating Solids* (1949), Albers further deepens his process.*

From 1947/48 on, he concentrates more on the problem of color. Thus he does not animate his surfaces through convex-concave forms anymore, but through modulations of color. This is the third stage. Albers established that color "breathes," that it moves forward and backward, that our retina sees it as decreasing depending on the adjoining colors. During the next twenty years, Albers will never cease to use this characteristic of the color in order to "put" his painting "into motion."

First, in 1947/48, he creates the *Variants*, calculated on graph paper, where each color has about the same amount of surface. Then, from 1949 on, follows the series of the *Homage to the Square*. This means the beginning of the precise and exacting work to develop on an almost permanent base (three or four superimposed squares) an unlimited catalogue of the interaction of colors and of the resulting modulation of surfaces. As Albers told me in New Haven, "color is the most relative medium in existence. I can bring the saddest gray to dance if I put it next to a certain black..." And whenever he discovers a new "respiration" – a certain orange which gently causes a cobalt blue to recede, or a certain green which "floats" within a specific red – then he is very satisfied: "This is a game which occupies me ten hours a day, a game without end. I would need centuries, millions and millions of squares..."

If this oeuvre which is still being continued means so much to us today, it is because Albers was one of the first to pose a decisive problem of instability and of dematerialization of form. This influenced future research. For half a century, Albers systematically pursued the same problem, evolving through three decisive stages: transparency of support; ambiguity of form; interaction of color. His patience and logic, reminiscent of Mondrian, make him one of the most capable creators of contemporary intelligence.

* Mr. Gerald Norland gave a detailed list of these different stages in the catalogue *Josef Albers: the American Years*, published in 1965 by the Washington Gallery of Modern Art, Washington, D.C.

1. Trade name for a transparent cellulose acetate made by the English company May & Baker. — Ed.

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Originally written and published in French as "Albers: trois étapes d'une logique" in *Albers. Mars-avril 1968* (Paris: Galerie Denise René, 1968) and in *Rhobo* (spring 1968): 10–14 (with slight variations).

English typescript, Box 10, Josef Albers Papers (MS 32), Manuscripts and Archives, Yale University Library.

Incomplete typescript in English, typescript photocopy, and photocopy of French article in *Rhobo*, spring 1968, Box 85, Folder 9 (2), The Papers of Josef and Anni Albers.

Translated into Spanish as "Los 80 años de Josef Albers. Tres etapas de una lógica," for the twenty-fifth anniversary of the Mexican newspaper *El Nacional*. Copy at the Josef Albers Papers, 1929–1970, Archives of American Art, Smithsonian Institution. The text published here is a translation from the original French text.

Jean Clay is a French art historian whose most relevant books include *Romanticism, Modern Art 1890–1918, From Impressionism to Modern Art, L'impressionisme, The Louvre, De l'impressionnisme à l'art moderne*, and *Comprendre l'impressionnisme.* In 1968 he wrote another text on Albers' work: "Les carrés magiques d'Albers," *Réalités* (March 1968): 92–97, published in English as "Albers: Josef's Coats of Many Colours," *Réalités* (August 1968): 64–69.

Correspondence between Josef Albers and Jean Clay (1966–1973), Box 2, Folder 37, The Papers of Josef and Anni Albers.

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## Margit Rowell

# On Albers' Color (1972)

I.

In America, it has been the fate of Josef Albers to be identified as a "Constructivist" artist. If one accepts this classification, it is difficult to understand what influence – if any – he could have had on present-day American art. Nonetheless, although his presence has been less explicitly felt than that of a focal figure such as Hans Hofmann, there is perhaps not a painter living today in America who has not been acutely aware at some time during his career of Albers' accomplishment in the area of perceptual experiments.

Constructivism, in its present-day usage in America, has connotations which set it at the opposite pole to the mainstream of postwar American painting. Although Albers was born in Germany, and participated in the initial phase of European geometric abstraction, the major development of his art to what it is today occurred in the United States in the 1940s. It is the American years which are the important years. And it is through the form and sensibility of this mature expression that he has had an incalculable influence on recent generations of American painters.

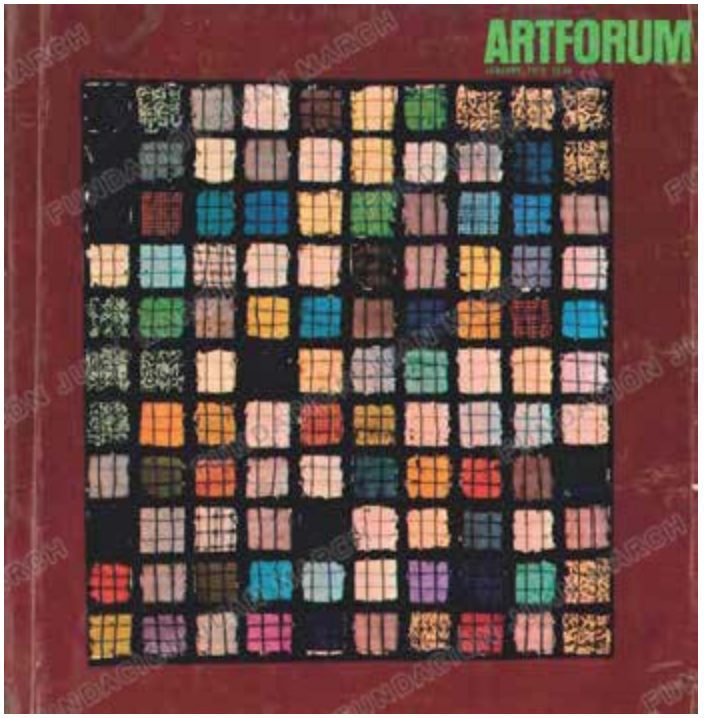
It appears, therefore, unjustly restrictive to relate Albers exclusively to Constructivist art. In my opinion, Albers' importance is due to his belonging to a broader, less categorically determined direction of 20th-century art: that of the investigation of the perceptual phenomena of color and light such as it has evolved in Western painting since Cézanne. Albers has brought this investigation to a kind of culmination: in his painting, the effect of light is so direct as to appear to be coming through the canvas. We are as in the presence of real light, not the kind of illusionism through which light is artificially projected from an outside source onto the support of the canvas. There are no whitened areas such as one finds in certain paintings by Vasarely *to give an illusion of light activity*, an illusion which is in fact *painted in*. On the contrary, Albers' light emanates from within, it emerges from the surface like a gas and hovers over the colored field. The whole surface is animated and articulated by lambent incandescence.

If we understand Albers' art as the ultimate study of color-light relationships (setting aside for the moment its expressive ends), we cannot deny the natural phenomenal references inherent in his painting. Abstraction from nature is anathema to the more dogmatic proponents of Constructivism. However, color and light do not exist "only in the mind."[1] On the contrary, their only real experience is in the perceived phenomenal world. This being true, Albers' creative activity cannot be defined as the demonstration of purely abstract ideas. Furthermore, harmonic laws and proportions, whereas present in Albers' art, are means and not ends: means toward an exacting statement about color-light interaction and its effects. In short, Albers' reality is phenomenological and it cannot be evaluated exclusively in terms of abstract ideas or concrete forms.

Aside from Albers' connection to the Bauhaus (which is often summarily described as a Constructivist-oriented design school), Albers' recourse to geometric forms – and in particular to the square in his late series of paintings – is one of the prime reasons for his present-day assimilation to the Constructivist camp. This tends to be an oversimplification. In the first place, it would be closer to the truth to argue that Albers chose the square not as a form but as a non-form, a neutral matrix for color. The square, because of its symmetry, stability, repetitive structure and identity of parts, is a weak form. This is especially true when it exists in a unified visual field, where no intercourse with differential configurations or spatial situations is provided. Moreover, the square is a relatively non-allusive form. It does not occur in nature (except in the unique case of salt crystals). In contrast to the triangle and the circle, it evokes few if any strong spontaneous associations.

Albers maintains that his choice of the square is entirely irrational. In his choice, however, he may have taken into consideration certain spontaneous Gestalt responses which do automatically occur. For example, despite the fact that neither axis has precedence over the other in a square, the horizontal lines usually dominate our vision. As a result, the square's horizontal "seat" is primary in our perception of it and reaction toward it. We respond to a sense of stability and gravity; by extension, a weighted nest of squares tends to have a ground and horizon kind of reading. The fact that in Oriental symbolism the square represents the earth, and the circle the sky, is not relevant to Albers' specific context, but it does corroborate our Gestalt reading.[2]

Psychic responses such as these automatically enrich – although equivocally – an otherwise "poor" form. The ambiguity of Albers' space in his *Homage to the Square* series depends in part on such




"On Albers' Color" by Margit Rowell, *Artforum* (cover), January 1972, with penciled annotations by Josef Albers inside

responses. A nest of squares contains an implicit diagonal line stretching from outer to innermost corner, coaxing the viewer into the conventional way of reading three-dimensional illusionism into a two-dimensional surface. A nest of squares of diminishing size and without drawn edges are read as projecting forward or backward in a telescoped relation to each other.

Thus in an Albers' *Homage to the Square*, a contradiction of visual contexts is produced in a single spatial situation; flatness and depth are confounded and we are entreated to adjust from one to the other without ever being reassured as to what the proper reading is. That this does not occur in a concentric square painting by Frank Stella can be explained by the presence of white lines or channels which "space out" laterally the concentric square areas. The resulting effect is one of *bands* running around a center and not a situation of square upon square.

Moreover, since, in a painting of this style by Stella, the colors are voluntarily of highly different hue and value, demanding radical adjustment of the eye, areas do not lead into one another but remain distinctly separate.

The fact that no drawn (or reserved) lines separate the banks of color in an Albers promotes the visual interaction of color and space which occurs at the passage from one to the other. The activity at this boundary is never the same. It allows a sharp or a fluid transition. When Albers is working with equal light intensities, the passages are barely perceptible, the angles no longer prominent, and the horizontals and verticals appear to waver. The whole configuration dissolves into indeterminate form. In other cases, however, radical contrasts of hues, or of light reflection versus absorption, draw attention to the edges as the "hot points" of activity in light deflection, defraction, or refraction.

Finally, the square is a virtually closed matrix and as such concentrates color activity in a restricted area, bounded on all sides. The compression of color somehow releases energy in the form of light at the edges where the greatest pressure takes place. The proportions of each plane in their interrelations modify hue and light intensity, thus proving that area intimately affects color action and reaction.

Albers' small formats provide another argument for those who would identify him with the European Constructivist school. It should be mentioned in passing that all of these charges are purely relative, more dependent on current or noncurrent usage than on considerations of meaningful form. In relation to the "large canvas" or the "big field," Albers' maximum format of 48 by 48 inches is often referred to in America as "chamber music," and taxed as "conservative" or "European." Since this format serves Albers' means and ends, one should not seek to compare it to the realization of other concepts and intentions in recent American painting.

That an artist decides to work in one format or another is neither arbitrary nor simply conservative but has to do with his concept of

space and his notion of the work of art. Albers does not conceive of painting as a vital act or an ontological experience. To his mind, painting relates specifically to the activity of seeing. It is addressed to the eyes, through which vehicle it eventually attains the mind, the spirit, the emotions, and the other senses, reactions, and reflexes, and their peculiar reserves of experience. Albers' formats are designed as receptacles for perception. They are not to be experienced through identification with body movements nor through a confusion with other kinds (intellectual, physical, spiritual) of spaces or experiences. What is there is offered to the eyes to perceive and conceive of the expressive implications.

Much art of our time, through scale or impact, proposes a relationship to the viewer in which the viewer's identity is lost. Conversely, Albers proposes a pole of experience in a relationship where the other pole – the viewer – is a human being who must retain his identity as an active participant, which is to say as a subject, in a subject/object relationship. As a concentration of visual activity, Albers' paintings span the space which can comfortably and normally be encompassed by the mind's eye.

Albers' preference for oil paint is a final point worth mentioning in this preliminary discussion of his work. An artist's choice of medium is largely a subjective one. An artist experiments with a medium, feels comfortable with it, and adopts it as his own. The medium, as the vehicle of his expression, is very important to that expression's being clear, personal, and corresponding faithfully to the intention. Albers paints with pure (unmixed) oil paint straight from the tube. His support is a Masonite panel, on which he often uses the wrong – or rough – side. This he covers with several coats of zinc white, and then he proceeds to plot out his nest of squares.

Color is then applied, band by band, in painstaking dabs with a palette knife. The support offers a resistance which Albers cherishes. The densely primed white ground often shows through the single coats of color subsequently applied, thus heightening the surface's reflective reaction to light. Albers completes a square of color right up to the edge before attacking the next one. Since he uses no tape, the borders are precise but not hard-edged. The slight unevenness at the edges heightens the chromatic-luminous intercourse of the juxtaposed hues. When he arrives at the outside edge he stops, always leaving a surrounding ribbon of white. "It is important to know when the painting ends," says Albers. "All my paintings have a beginning and an end."

Albers' color orchestrations come to him at night when he is lying in bed. These are worked out in small colored sketches on blotting paper until the color interaction is exactly right. However, Albers' final relationship to his paintings is that of the close manually exacting contact of the experienced craftsman. There is no improvisation once he arrives at the execution, only complete control. This close physical contact as well as the desire for utter control explains in part his persistence in the same medium which by now, at least from a technical standpoint, holds few surprises for him.

The preceding discussion is important in that these are the bases for a resistance to Albers' painting which cannot be denied. As mentioned earlier, this is attributable in part to Albers' relationship to the Bauhaus, where he spent thirteen years between 1920 and 1933. However, there is evidence that the premises of Albers' creative activity, as they have become manifest throughout his long career, were formulated prior to his Bauhaus experience. Contrary to prevalent assumptions, the formation and realization of Albers' artistic temperament did not begin and end at the Bauhaus.

II.

Albers was thirty-one when he entered the Weimar Bauhaus. He had already been through a variety of formal backgrounds which provide revealing insights into his later options and orientations as an artist. Pre-Bauhaus experiences which appear significant in relation to his future development can be described in terms of his exposure to contemporary art of his time: Munch, German Expressionism and van Gogh, Delaunay and Cézanne, and the Dutch artist Thorn Prikker. Apart from these, it is of more historic than esthetic interest to know that Albers studied briefly with Franz Stuck in Munich in 1919. Albers, who succeeded Klee and Kandinsky with this teacher, attended Stuck's classes for only six months, claiming, as had Klee before him, that Stuck understood nothing about color and it was therefore a waste of time for both of them.

Yet to assume that Albers was already interested in color at that early stage of his career would be presuming a great deal, in view of the meager evidence provided by the works. On the other hand, Albers' fascination with light and the elaboration of forms through contrast seems easier to substantiate, and this is what I would like to examine here.

Upon studying Albers' development as a whole, one arrives at the conclusion that the most precise definition of his lifelong activity would be not a dedication to the interaction of color – as is commonly assumed – but to the interaction of color and light. Few recent European artists have had such a predominant interest in the autonomously expressive powers of color, but one can in this context evoke the name of Henri Matisse. Like Matisse, Albers is fundamentally indebted to Cézanne, and I would be tempted to say that the basis of their indebtedness is the same:

> ... only two of Cézanne's radiant ideas proved useful to Matisse as he drew up the balance sheet of his critical studies – the construction of the picture as a complex of energies, and the representation of light by color equivalents, both illustrating Cézanne's dictum that art is a harmony parallel to nature.

> Cézanne's influence is disclosed in the following saying by Matisse: "Never struggle with nature to reproduce light; we must look for an equivalent, work parallel to nature, for the means we use are in themselves dead. Otherwise we would inevitably be led to place the sun behind the canvas.[3]

It is difficult to document Albers' earliest awareness of light and color as important and inseparable expressive vehicles in and of themselves. Albers discovered Cézanne and Matisse in 1908, Delaunay at a slightly later date (1913?), Munch, van Gogh, and Die Brücke in 1913–1914; and it is the works which succeed these discoveries which are the earliest extant documents of Albers' activity. His assimilation of these impressions does not appear to have been immediate. However, this remains somewhat hypothetical since the works from which we can judge are spare and most of them either bear no dates or were dated retrospectively. Albers discovered Edvard Munch in Berlin at the 1913 Herbst exhibition. His reaction is significant: "At the exhibition, there was a painting by Munch, *The Rising of the Sun.* It was a huge painting. It overwhelmed me. There was such a terrific glow that you couldn't look into that sun. It was so overwhelming that it put me on my knees. That is one of the greatest experiences I have ever had in modern painting."[4] The painting to which Albers is referring can be identified as one of a series of large studies executed by Munch in 1910–1916 in preparation for murals for the University of Oslo. Twelve of these studies were exhibited at the Berlin Herbst exhibition in November 1913. One of the mural panels represented the sun, for which at least three large (six, fifteen, and twenty-five feet long respectively) oil or tempera studies still exist today (Munch Museum, Oslo) and Albers agrees that it was one of these paintings which he saw.

Little-known gouaches of ca. 1913–1914, in particular a still life with a single geranium in a vase, show what appears to be Munch's influence, in the sharply contrasting colors, the fluidly contorted lines, and the conception of painting as an extension of Expressionist drawing. There are no densely colored planes and no contour lines, only bunches of juxtaposed vitalist strokes radiating across the surface. The expressively animated background which is a result of this technique of drawing in paint echoes the forms of the objects in "currents" of light and shadow. Interestingly, due to the fact that there is not a single plane of unified color in the composition, splinters of white (of the paper support) highlight the surface throughout, introducing a coefficient of light and contrast which is important to the autonomy, luminosity, and expressivity of the strokes and hues. Albers, however, relates these gouaches as well as black and white portrait studies of slightly later more readily to his discovery of van Gogh. In this particular gouache, the subject of a flower, articulated in dynamic contortions, the densely energized surface, the bright contrasts and the essentially linear expressive strokes are in fact reminiscent of the Dutch artist. Albers relates his discovery of van Gogh in the following terms: "When I was in Berlin at the Königliche Kunstschule (1913–1915), one morning Philipp Franck showed us Dutch photographs of van Gogh's charcoal drawings. He laid them out against the wall. I was so tempted to rub a little charcoal off; they were so marvelously reproduced. You know this marvelously powdery effect you get from charcoal stroke? Every morning I looked around to see if anyone was watching and I ran my finger across the surface. I knew they were photos, but I had to touch them to convince myself it was not charcoal. There was born my great admiration for van Gogh. The strokes of van Gogh, particularly in his portraits, always go with the form, the lines go down the nose, the lines follow the form. Later I tried, indirectly, to do something similar. I was not copying van Gogh; but afterwards I realized I was doing what he had done."[5]

This development is illustrated in black and white portraits of 1917–1919 [cat. 4]: The lines follow the forms, and the articulation of the image is made up of sharp contrasts between form-structuring lines – or a personal kind of structural shading – and areas left bare or seemingly bathed in light. These portraits, which were sometimes drawings, sometimes woodcuts, linocuts or transfer lithographs, relate in turn to the linoleum prints of mining landscapes of the same years, at least in the very distinct instrumentation of light-dark contrasts and the emphasis on expressive line. However, the progressive acuteness of the image – the more polar contrasts and angular forms, brought about in part by the woodcut and linocut techniques – relates the latter works more closely to the Die Brücke group, active in Dresden until 1913. Albers admits to the awareness of, and interest in, Die Brücke which is visible here.

The points discussed thus far in examining Albers' early development appear surprisingly Expressionist in tenor. It seems safe to say that what Albers saw in these exponents of Expressionism were not solutions for a problem of self-expression. Albers was never interested in the projection of sentiment even when attributed allegedly universal connotations. On the contrary, what he discovered here were visual and psychically effectual solutions to problems of a distinctly pictorial nature. As Albers puts it: "I admit that my work of that period, particularly my portraits and woodcuts, are very Die Brücke. But this was construction to me, not expression."[6]

In all of Albers' works of that period, whether they appear related to Munch, van Gogh, or Die Brücke, one is struck by an absence of conventional illusionism for which is substituted a relatively flat, unified, graphically animated, rhythmic surface. A strongly expressive structural articulation is achieved, not only through the synonymy of drawing and color (one can speak of neither lines nor planes in these instances), but through the abrupt contrasts created by reflective areas of white enhancing and strengthening dark structural thrusts or strokes. There is no graduated shading or modeling in the conventional sense. Peculiar to Albers and the Expressionists, the areas of white – although usually simply

reserved areas of non-color (the blank paper support in drawings or lithographs, the gouged channels in linoleum or woodcuts) – are not used as empty or negative spaces but as positive values: zones of refulgent light. Already at this early stage of Albers' development, one can find several clues to the artist's subsequent mature style: the elimination of the distinction between line and color and of their traditional roles as separate, organizing factors of the image; and an emphasis on tonal contrast or the interaction of light and color to define perceptual experience and its psychic effects.

With this in mind, Albers' interest in Cézanne is not surprising. Albers discovered Cézanne at the Folkwang Museum in Hagen in 1908. Though "it was not until Essen (1916–1919) that Cézanne got into my bones."[7] In retrospect, Albers considers his discovery of Cézanne as one of the most crucial factors contributing to his stylistic evolution.

Cézanne is usually described as the father of Cubism, and, as such, emphasized perceptual structure in painting. In the present context, one is tempted to stress another aspect of Cézanne's accomplishment: the discovery of the perceptual reality of light and color. Cézanne's celebrated esthetic theory, that of "passages et contrastes," corroborates this premise and appears to be Albers' point of reference when he says: "I was fascinated by Cézanne's organization of the color fields, how planes – areas of light and dark – touched or did not touch, had dissolved or abutted edges, and I was impressed by the independent articulation of the planes in reference to the image thus produced."[8]

If one tries to understand what Albers is saying in terms of what he saw in looking at Cézanne, and what was meaningful to him, one can say that, as in his relationship to Expressionism, his was a highly personal view. His preoccupation with the expressive structure of perceived images rather than with representation led him to focus on the edges of Cézanne's prism-shaped planes and their interaction with one another in the articulation of the surface as a whole.

A painting by Cézanne appears as a fabric of contiguous patches of color which unify the total image in a single flat but undulating plane. Prismatic color and its coefficient of light penetration or reflection are the sole determinants of spatial position. As an example of "contrast" in a painting or watercolor by Cézanne, the juxtaposition of two patches of the same hue but of unequal light intensity creates a perceptual contrast or drawing apart of planes in space. Such visual incompatibility in terms of light content forces the eye to readjust its focus and change its axis of perception in shifting from one area to the next. The opposite perceptual exercise occurs when juxtaposed planes of different hues but of equal light absorption or reflection create a "passage" from one plane to the next to which the eye scarcely has to adjust. Thus Cézanne created incredible foreshortening effects between front and middle grounds. By attributing the same light coefficient to each, what is far and what is near are assimilated by the eye without changing focus.

The expressive articulation of Cézanne's images is provided by the system of visual relations produced through his manipulation of light. The characteristically shallow space of a Cézanne depends on the tightly unified fabric of relationships thus produced. That Cézanne's compositions are always fairly frontal in arrangement is significant, stressing that the modulated planar effects relate to the surface of the canvas. Cézanne was not interested in the traditional mentally elaborated illusions of painting, but in capturing perceptual reality. The greatness of Cézanne is partly due to the irreconcilable contradiction between his objects which are strong, sensual, and physical presences, and his simultaneous emphasis on the literal two-dimensionality of the surface.

That Cézanne considered the canvas a strictly two-dimensional area is confirmed by the importance of horizontal and vertical axes to anchor and consolidate his images. When the emphasis is vertical (as in his single figure studies) there is always a horizontal line defining the relationship of the figure not only to its space but to the two-dimensional enclosed and flat space of the canvas. Conversely, when the dominant axis is horizontal (as in a still life or some landscapes), vertical motifs lead the attention to the upper and lower limits of the surface described. The asymmetrical equilibrium created in reference to vertical and horizontal axes makes one think of Mondrian. But a less hazardous common denominator of the two artists is their conception of the canvas as a two-dimensional surface of predetermined dimensions to be articulated according to its given proportions. In each case the artist plots out his image in reference to the edges of the frame: he is conscious of where his viable space begins and where it ends.

Due to his method of planar differentiation and the implicit global articulation discussed above, Cézanne could discard several traditional pictorial devices and introduce more personal means to serve his expression. For example, contour lines were not necessary to determine the structure or relations of forms. As we have seen, these were defined by the tonal interrelations of planes, indicative of a postural relationship to light. When lines are introduced, they function as nonstructural ornament and not as a scaffolding for the image. Furthermore, in contrast to Impressionism with its thick impastoed surfaces and illusionistic play of light, the Neo-Impressionists and Cézanne worked with real reflective light as a positive orchestrating value. The white or pale neutral grounds ("*le ton locale*") found in Seurat's mature paintings as in Cézanne's were an important factor in determining the light sensitization of the canvas: the circulation and reflection of light between fragmented planes of hue, and the intensity of the colors themselves. Between 1916 and 1918, Albers executed a series of lithographs in which his understanding of Cézanne is strikingly apparent. If one compares them to French Cubist works, one realizes that what the Cubists learned from Cézanne was his reductive analysis of two-dimensional space, whereas what Albers learned from Cézanne was a structural synthesis of the image through light.

A comparison of Albers' "Cubist" self-portrait to his "Expressionist" self-portrait of the same years is instructive. Not only do they portray

the same subject, but the pose is identical. However, the content is radically different.

The Expressionist portrait depicts only a portion of the artist's face: one eye, the nose, half the forehead, mouth and chin ... the image stops dramatically there. This silhouette is handled in what one might call a topographical or "map-treatment" style of strongly curved and modulated flat strokes which describe both the physically and psychologically salient features of the sitter. The sharply undulating contours of the three-quarter profile recall Hodler, Schiele, and other Northern European Expressionists. The dynamic shading through what one could call a fluid wash of contrasts – simultaneously intense and transparent – is strangely reminiscent of the metaphysical painting of William Blake. Albers, although he admits interest in Hodler and Blake, once again relates this lithograph to van Gogh.

These voluntary deformations of reality transmit an effectively evocative image: not the objective rendering of a face, but the reflection of a man's psyche, a strangely nocturnal image which, like Expressionist portraits, induces emotional associations. Albers unofficially calls this portrait "Mephisto," indicative of the kind of associations he attributes to it. The eyes in this portrait appear to turn inward, mirroring an inner world. The eyes in the Cubist portrait stare steadily out and meet our gaze. This observation in itself is a preliminary indication of the difference in essential attitude between the two portraits. The first is psychological, subjective; the second is structural and objective. The polar tonal contrasts have been transformed into prismatic facets of light and shadow; the modulated fluid strokes have been replaced by a network of hatched muted planes. We are no longer drawn from the image into a world of associations; our eyes are caught in the mesh of visual activity which relays them across the surface, from plane to plane.

Such a radical difference in forms of expression projects two different connotations of the man. Although one could say that strong morphological references are maintained in both, if we accept that the first is the image of a man's psyche, in the second, psyche and physis are incorporated in an image of the whole man, which image is visually correlated to its surrounding space and to the viewer as a spatial determinant. Posture and structure are synonymous as in Cézanne.

This development toward a more integrated expression of the man also shows innovations in the artist's handling of space, in his synthesis of three-dimensional volume and two-dimensional plane as well as the relationship of human expression to explicitly pictorial devices. It demonstrates the complex activity of light, value, form, and space as Albers was attempting to interrelate them at that time.

Rarely since Cézanne has the theory of passages and contrasts been put to such precise and effective use as in this and similarly styled lithographs of the same years. *Alley of Elms* (which Albers also calls *Allée*) dated 1916 is an earlier work than the Cubist self-portrait. The flat, slightly curved strokes have more of the velvety quality Albers found in van Gogh; they are less strictly defined as planes. However, an awareness of Cézanne is obvious, and most strikingly so in the choice and handling of subject matter. Reminiscent of Cézanne's studies of roads in Provence, the artist achieves an imitation of depth through a zigzag pattern of contiguous planes in an essentially shallow space. The relations between the triangulated areas of light and shadow are defined by now sharp, now dissolving edges. The house in the distance echoes the meeting of the overlapping branches, a motif found time and again in Cézanne's studies of this kind.

The concentric structure of the image around a distinct central focus and squared off boundaries is interesting in view of what we know is to follow. In this expression of a developing artistic temperament, scale, proportions, inner relations, outer limits, all are precisely defined.

What Albers learned from Cézanne was that a painting is a complex of visual energies concentrated on a precisely encompassed two-dimensional area. He furthermore assimilated a number of pictorial devices for implementing light and spatial articulation. The presence of an underlying white or neutral ground – rendering color transparent and more reflective – is used by Albers to this day. Fundamental to Albers' infinite orchestrations of color is Cézanne's theory of "passages et contrastes." In his *Interaction of Color*, Albers describes this method in his own terms:[9]

> By exercising comparison and distinction of color boundaries, a new and important measure is gained for the reading of the plastic action of color, that is, for the spatial organization of color. Since softer boundaries disclose nearness implying connection, harder boundaries indicate distance, separation.

Four paragraphs later, Albers makes a direct reference to Cézanne in this area of visual invention:

> Such a study, or a similar recognition, in my opinion, led Cézanne to his unique and new articulation in painting. He was the first to develop color areas which produce both distinct and indistinct endings – areas connected and unconnected – areas with and without boundaries – as means of plastic organization.
> And, in order to prevent evenly painted areas from looking flat and frontal, he used emphasized borders sparingly, mainly where he needed a spatial separation from adjacent color areas.

Cézanne, although of capital importance to the development of Albers' oeuvre, was not the only artist from whom he took pictorial cues during that period. He also admits to having admired Robert Delaunay, and when one compares Albers' *Alley of Elms* to Delaunay's *St. Séverin*, one cannot help but see analogies. Of course, both artists were inspired by Cézanne, but both departed from the strict Cubist idiom toward a dynamic structural analysis through color-light interaction.

One version of Delaunay's famous *St. Séverin* series was exhibited at the first Blaue Reiter exhibition in Berlin in December 1911–January 1912.[10] It was bought at the end of the exhibition by a Berlin private collector. Albers maintains that he only knew the painting through reproductions, as he did not arrive in Berlin until the autumn of 1913. His study of the interior of Munster Cathedral executed in 1916, if not directly related, is nonetheless strikingly similar in subject, composition, foreshortening, and emphasis on the circulation of light. Albers admits his sensitivity to Delaunay's experimentation with color-light orchestration and its development toward abstraction, and Delaunay's *St. Séverin* is an excellent example of the French artist's preoccupations at that time. The peculiar articulation of the floor in this painting (comparable to the treatment of the road in Albers' *Alley of Elms*) is an abstract translation of the dynamic play of light through the highly colored stained glass windows of the Gothic church.[11]

The window motif, as a logical vehicle for color-light dynamics, was one of Delaunay's major themes. At a one-man exhibition in early 1913 at Der Sturm in Berlin, Delaunay exhibited ten of his series of paintings *Les fenêtres* for the first time. Once again, this was prior to Albers' autumn arrival in Berlin. However, once he settled there, he made weekly visits to the Der Sturm galleries and, since Delaunay's paintings were often on display, he may have seen them there.

Albers' interest in Cubism, oriented around the perceptual structure of light, crystallized during the years he was at Essen (1916–1919). His development in this direction was further stimulated by his studies with the Dutch artist Thorn Prikker at the Essen Kunstgewerbeschule (later called the Folkwang-schule). Although there is little if any documentation on the relationship between the two men, Albers' meeting with Thorn Prikker appears capital to the understanding of the definitive orientation of his work.

Johan Thorn Prikker was born in 1868 in The Hague. He died in Cologne in 1932. Only four years older than Mondrian, and an advocate of non-objective art as early as 1920, Prikker is more widely known for a small body of figurative work produced in Holland around the turn of the century than for the major part of his oeuvre executed in Germany, where he lived most of his life. Thorn Prikker started the documented part of his career as a "Luminist," a member of a Dutch group comparable to French Neo-Impressionism of the pointillist idiom. As such, he was preoccupied by problems of light and color interaction. By the turn of the century, Prikker had adopted the flat – linear and symbolist – decorative style for which he became famous in Holland along with Jan Toorop and other Dutch Art Nouveau masters. However by 1910, he had turned his activity to stained glass windows and this was the orientation he was to pursue and in which he excelled until his death in 1932.

In Prikker's earliest window of ca. 1910, an interest in light, flat patterns and symbolic figural subjects is evident. The stained glass technique is academic: a figurative image composed of splinters of colored glass mounted in an intricate and densely leaded frame. The windows have the murky luminescence and heavy symbolism of icons. The color is somber, due to the traditional use of dark-toned glass (burgundy, dark blues, greens), high fragmentation, and heavy leading. As a result, the coefficient of light diffusion is minimal.

Thorn Prikker's mature work (after ca. 1920) is altogether different, consisting of large geometrically cut panes of bright uniform color. Whereas the early works are primarily images, the second are planes whose principal function is to catch color and diffuse light. The broad brightly colored areas are in some instances separated from one another by a "threading" of narrow panes of white glass; in others they are closely juxtaposed. The color and light dispersal of each pane is intimately dependent on the interacting hues and reflections of adjacent panes as well as on degrees of illumination from a source of light behind them. There is a visible difference in optical activity between the center and the edges of a plane, which difference brings the whole concept of color interaction to mind.

Thorn Prikker's success as a glass craftsman appears to have been almost immediate. Not only was he granted important commissions,[12] but numerous articles discussed his work extensively as early as 1911.[13] In spite of his present-day oblivion, it seems evident that he was considered one of the great glass window masters of his time.

Prikker's influence on Albers occurred at several levels. The most obvious effect would appear to be Albers' adoption of the window medium during the second semester of his first year at the Bauhaus (1920–1921). However, he was predisposed toward this vehicle of visual communication by his extensive initiation into the expressive powers of color and light. He was moreover attracted to the medium on a purely practical level, which was the strong tradition of craftsmanship in his family. Thorn Prikker's own reasons for adopting the glass window technique provide further insights into how and why the technique could appeal to Albers. In 1911, when Prikker had just started to work in glass, he remarked that real light was as important an articulating factor of two-dimensional imagery as drawing or color and added: "How magnificent it must be to paint with the sun itself!"[14] That this concept corresponded to AIbers' aspirations is hardly surprising, in view of the indications of his sensitivity to light, manifest since his first response to Munch's painting of *The Sun*.

Furthermore, Prikker was quick to see that the use of real diffused sunlight – or what one could call "literal" light – eliminated a number of pictorial problems which were foremost in artists' minds at that time. The dilemma of surface pattern (advocated by the Dutch Art Nouveau symbolist school) versus the depth illusion of traditional painting was automatically resolved, it being difficult to depict depth or illusionist shading on leaded glass panels. For other problems which had been raised in relation to "Luminist" and Art Nouveau theories and practices, solutions were also found: the depiction of spiritual auras of light was translated through real light projection and dispersal.

Effulgent color and spiritual radiance were the real subject matter and content of Thorn Prikker's art after 1920. It was and remained wholly non-objective, based on the manipulation of color, light, and their relationships, within highly simplified abstract patterns.

III.

The activity of light diffusion and window configurations will be two dominant themes (sometimes united, sometimes separate) in Albers' artistic career from that time to the present. The first relevant examples can be found at the Bauhaus. Albers' activity at the Bauhaus cannot be gone into at length here except as it relates to the context of this discussion.[15] Albers' first Bauhaus works were neither paintings, drawings, constructions, nor prints. They were assemblages of shards of colored glass mounted with chicken wire in a sheet of tin, and designed to hang in front of a window. The choice of medium was partly influenced by practical considerations: "We were very poor. It was just after World War I and all of Germany was very poor. So-called 'art materials' were scarce and very dear. So I took my knapsack on my back and went off into the mountains to look for glass shards; these were bottles that I broke or samples that I got from glass works in the area."[16] His choice also sprang however from his desire to work with "direct light." This was only clearly formulated between the first and second semesters of his first year, when the council of Bauhaus masters encouraged him to enter Kandinsky's "wall-painting workshop," a requirement for every Bauhaus student. Albers refused. "Wall-painting entails painting with indirect light, the reflection of light which comes from in front of the surface and bounces off that surface plane. I wanted to work with direct light, the light which comes from behind the surface and filters through that surface plane. In this case, light is a volume, not a surface illusion."[17]

Albers was authorized to open the glass workshop in 1921.[18] Gradually the artist's fragmented shard shapes and the organization of the surface became more regular. A major work of 1922 shows a rectilinear grid arrangement of modular units, held in place with chicken wire.[19] When Albers finally adopted leaded glass mounts in 1922–1923, he executed two important commissions in private houses near Berlin: the Sommerfeld and Otte houses. These windows, and other works from those years, consisted of highly contrasted flat patterns of geometric forms. By 1925, Albers had started working with flashed glass, producing what have become the best-known works of his Bauhaus career [cat. 6-8]. "I could get samples of glass coated with a surface of color: gray, red, yellow, black. We had no tape in those days so I devised a process whereby I made a stencil from a kind of blotting paper which I soaked in glue and sealed to the pane. Then I cut the figures out in preparation for sandblasting and sandblasted the parts of the surface which were exposed. I preferred blasting to acid because it obtains sharper edges. When I had bitten away the colored surface to the white core of the panel, I removed the paper and in most cases added surface motifs in glass-painter's black: straight iron oxide. It was then baked in a kiln and the color became permanent."[20]

The resulting works are abstract relief paintings in glass based on varying degrees of transparency and opacity. The majority of these paintings belong to what Albers calls his "thermometer stripe" style. Originating in 1925, the year of his first trip to Italy with his wife Anni, the initial inspiration for this style based on equidistant parallel lines is thought by Anni to be the alternating bands of colored stone found in Tuscan architecture, and, in this instance, in the cathedral at Florence.[21] The organization of the images, on the other hand – many of which make overt reference to cityscapes – are visually close to contemporaneous Bauhaus architectural drawings of tall apartment buildings consisting of the stacking of parallel horizontal lines. Other glass paintings depict window configurations which float in an abstract ambience reminiscent of a stage decor. The spatial relationships between forms and to the plane are left ambiguous and undefined.

One cannot speak of tonal variations in the flashed glass panels. One can only speak of degrees of color and light activity. Exceptional are the gray surfaced glass paintings. These are where Albers started experimenting with optical illusions through more complex continuous line patterns and alternating shades of light and dark within a single color scale.

Albers did little painting to speak of at the Bauhaus, a further indication of his by then dominant interest in light and the structure of perception. The gouaches which remain from that period as well as from his first years in the United States are almost without exception experiments in black, white and gray. These can be understood as studies in degrees of light absorption and reflection and the manifold structural and expressive variations which can be achieved through such limited means.

Albers did not begin to work with color and in particular with oil paint until a few years after his arrival in this country in 1933. His first paintings appear relatively monochromatic. They are, however, interesting transitional works for several reasons: the first is their explicit preoccupation with perceptually complex imagery, characterized by repetition, reversal or bilateral symmetry. The second is the continuing predominance of tonal-light contrasts over real color instrumentation. The third is the constancy of the window image.

All of these qualifications can be found in Albers' paintings of the early American years. In *The Gate* of 1936 [cat. 16], the open window (or gate) allusion is obvious, although its overtness is attenuated through the structural complexity of the interlocking forms. The light intensity or value of the two colors – an outer violet and an inner gray – is so close that we can only read them as in the same plane. However, the stippled black around the white central orifice introduces an illusion of light activity which for the moment is only

an illusion. It is a "painting in" of light activity, subsequently to be replaced by physical light activity itself.

Focus in these paintings is almost always central, sometimes bilateral, determined by the most strongly defined figure or figures. The perceptual ambiguities achieved through structure or tone are usually designed around and in reference to (repeating, reversing, extending) the central configuration or configurations.

*b and p* of 1937 [cat. 19] shows an example where bilateral symmetry is employed. Furthermore, the relationship of warm to cool colors (beige to blue), and the haloes of color painted around the central figures, introduce a sense of relief to the image in the Cézannian sense. Once again the maximum light reflection is concentrated in the center images.

The characteristics illustrated summarily above remain present in Albers' painting today: in the *Variant* [cat. 41] series and the *Homage to the Square* [cat. 55–64, 66–69, 73–77, 87–105, 109–110]. In the first series, one finds the perceptual complexity of overlapping and transparent planes, repeating, reversing, or extending the central bilateral imagery. The *Variant* motif was originally an abstraction on the theme of a pair of adobe houses and as such an allusion to windows articulates the forms.

The *Homage to the Square* series is Albers' most subtle accomplishment to date. Because, although we still apprehend an image of great perceptual complexity, the transparency and overlapping of planes is no longer explicitly indicated. To borrow Albers' terminology, they are psychic effects, not physical facts. As in the *Variants* there are no longer engraved white lines pointing up plane or form relationships as there were in earlier works. All visual variations and ambiguities are achieved through color activity alone.

Transparency, overlapping, depth to surface relationships, relativity of value or light intensity, sensations of openness, closedness, warmth or coolness, projection or recession, even the definition of hue as hue, all are achieved through the effects of color juxtapositions in exactingly determined situations. Here more than ever, the projection of light through color interaction is conclusively demonstrated. As such, light is Albers' fourth dimension: a phenomenal presence and an immaterial illusion. It is both the means and end in the psychic effects produced.

IV.

Albers' definition of art has been quoted and requoted: "The discrepancy between physical fact and psychic effect." The physical facts of his most recent painting are well known to us by now: the square format, the right-angled configurations, the nested squares of color, the oil-painted surface. Whereas the facts are severe and unpoetic to the analytic eye, paradoxically their rigor is only established in order to be destroyed by the irrational and unpredictable (for the viewer) emanations of light. In contrast to the rigorous stability of the physical facts, of a painting by Albers, light is visual instability itself. So that whereas the given premises are color and relationships, the refulgent surface subverts the substantiality of both.

The incandescence of Albers' surfaces transforms what is given into pure perceptual illusions. This incandescence comes from within the painting, blurring contours, distending space, dispersing the quality and quantity of hues as hues, destroying all that we assumed were the original postulates. In fact, the rigor and precision of an Albers at the outset makes us doubly sensitive to the slightest modulations and doubly disturbed by ambiguities in a context which we thought was rational and which reveals itself as totally and exclusively intuitive, expressive, visual, even appealing to our emotional reactions to color. Closer to Goethe than to Newton in his color concepts, Albers capitalizes on the human response to color seen as an emotional equivalent.

Albers' color has no direction except out, toward the viewer. Whether bold or tender, Albers' "volumes" of color-light assault us and solicit our response. "The painting looks at us," says Albers. "Art is looking at us." Like a window, light pours in. Like a Magritte painting of a window, where the multitude of visual connotations are telescoped into a single plane, the viewer no longer knows exactly what he is seeing nor what he is supposed to see.

Keeping this in mind, Albers' small square format and his highly sensitized surface appear entirely justified. In attempting to place the sun behind the canvas, he has found equivalents which serve his ends. As such, his art is unique in its form of expression in the 20th century.

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1. Max Bill's definition of "Concrete Art" reads as follows: "Abstract ideas previously existing only in the mind are made visible in concrete form. Concrete art in its ultimate outcome is the pure expression of harmonic laws and proportions."
2. The international 1930s group Cercle et Carré was, however, aware of this interpretation and used it to justify some of their premises.
3. Werner Haftmann, *Painting in the Twentieth Century,* vol. 1 (New York: Praeger, 1966), 76–77.
4. Told to me by the artist, April 14, 1971.
5. Ibid.
6. Ibid.
7. Ibid.
8. Told to me by the artist, November 13, 1970.
9. Josef Albers, *Interaction of Color* (New Haven and London: Yale University Press, 1963), 38.
10. Delaunay painted seven versions of *St. Séverin*. I am indebted for this and the following information on Delaunay to Mrs. Angelica Rudenstein who is

preparing the catalogue raisonné of the Solomon R. Guggenheim Museum Collection in which is found the version reproduced here. This version of *St. Séverin* is very close in conception and treatment to the one referred to in the text here.

11. The "highly colored" stained glass windows referred to here have been recently replaced by modern windows.
12. Prikker's earliest commission for a public building was a window in the Station at Hagen, in 1910.
13. See "Der Künstlerbund für Glasmalerei," *Die Kunst* 15 (Munich 1911): 129–36, 2 ills. Articles also appeared in the same magazine in 1913, and in Dusseldorf and Berlin magazines in 1913.
14. Quoted in exhibition catalogue: *Johan Thorn Prikker: Glasfenster, Wandbilder, Ornamente, 1891–1932* (Krefeld: Kaiser Wilhelm Museum, 1966).
15. For more complete documentation of Albers' Bauhaus activity, see Hans M. Wingler, *The Bauhaus: Weimar, Dessau, Berlin, Chicago* (Cambridge, MA: MIT Press, 1969).
16. Told to me by the artist, June 25, 1970.
17. Ibid.
18. It was the custom at the Bauhaus that each workshop had a "craftmaster" and a "formmaster." In the glass workshop, Albers was appointed craftmaster and Paul Klee was the formmaster. Albers' relationship to Klee is capital to further development of this discussion, but will not be studied here.
19. The even grid pattern of modular units recalls later paintings by Klee and Kandinsky. It appears from this that Albers was the first to use this kind of checkerboard pattern.

20 Told to me November 28, 1970.

21 One finds the same alternating lines in Anni Albers' Bauhaus weavings, starting around the same time, which fact has always presented an enigma as to who was the inventor of the style.

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Originally published in *Artforum* 10, no. 5 (January 1972): 26–37. Reprinted in *Josef Albers*, ed. Getulio Alviani (Milan: L'arcaedizioni, 1988).

Margit Rowell (b. 1937) was the curator of Special Exhibitions at the Solomon R. Guggenheim Museum, New York (1969–1983) when she wrote this article on Albers. She later became curator at the Musée National d'art Moderne, Centre Georges Pompidou, Paris (1983–1987); director of exhibitions, Fundació Joan Miró, Barcelona (1987–1989); curator, in charge of programming, Centro de Arte Reina Sofia, Madrid (1990–1991); chief curator, in charge of sculpture, Musée National d'art Moderne, Centre Georges Pompidou (1991–1994); and chief curator of Drawings, The Museum of Modern Art. In 1970, Rowell wrote an essay on Wojciech Fangor's Color Field paintings, in which she introduced Albers as the "present-day master of the theory of color interaction." Rowell explained that Albers' premise of equal light intensity was also applied by Fangor and quoted Albers' *Interaction of Color* to explain how equal light of two hues provokes dissolution of forms.

Correspondence between Josef Albers and Margit Rowell (1970–1972), Box 8, Folder 58, The Papers of Josef and Anni Albers.

## Richard Buckminster Fuller

# Josef Albers 1888–1976 (1978)

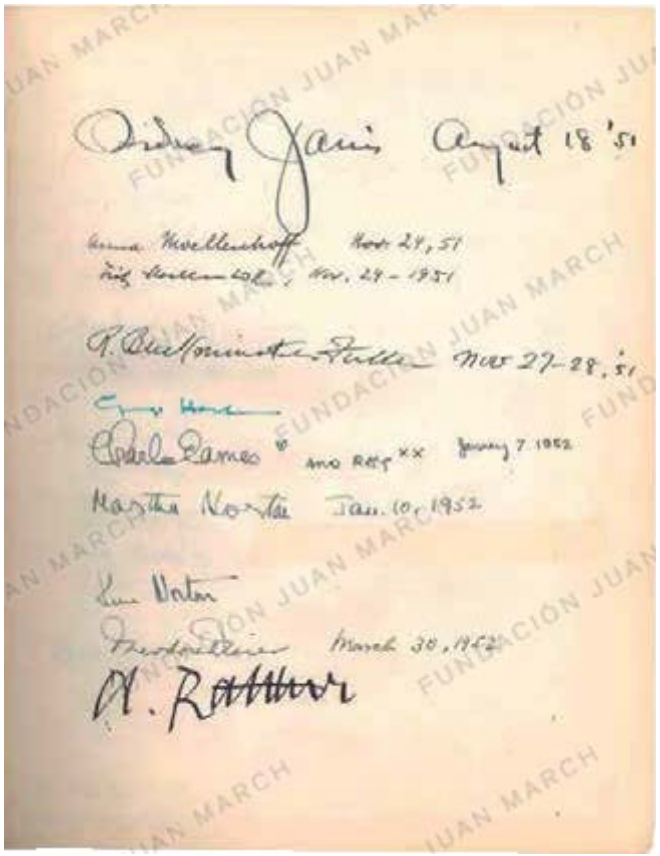
Just before [the] dawn of the 20th century when Josef Albers was born, world-around humanity's reality was *obvious* – everything humans could directly see, smell, touch, and hear with their own senses. Then came the discovery of radium, the electron, X-rays, cosmic rays, electromagnetics in general.[1] Today, 99.999% of the reality of hard science and technology is sensed only indirectly by macro-micro-instrumental extensions. [The] reality of 1977 AD is 99.999% *non-obvious*, *invisible*, and only contactable by mind-trained brains and the instruments they have devised.

The esthetic of the new reality is integrity, for only through absolute integrity of coping can the frontiers be reached. Macrocosmically, we have a 12 *billion-light-year-radius* sweep-out, and microcosmically, we have an *atom-viewing* penetration.

To comprehend where the artist Albers fits into the swiftly evolving episodes of the scenario: *humans in universe* require cosmic scale consideration. As we shall see, at any scale of consideration, Albers proves to be great for his esthetic integrity is maximally inclusive and refined.

In July 1969 the significance of artists such as Josef Albers was momentarily overwhelmed by the Moon landing news. Though the names of the astronauts doing visible reality's televised tasks had the widest and most dramatic publication in human history, their individual names became ever more difficult to recall because our subconscious judgments know that the accomplishment was a complex cooperative task of millions of humans working almost entirely within the invisible reality whose greatest heroes probably were the Houston, Texas, Mission Control Center's corps of, on average, nineteen-year-olds who operated the battery of omni-computerized, electro-magnetic wave fed, space-flight's remote control consoles. As the world held its breath and the astronauts their courage, the nineteen-year-olds had the mind-brain responsibility of split-second judging whether the data was falling within anticipated limits of the flight plan and when to alert the mission controller himself regarding any and all deviations from the flight plan. Experience had shown that the conditioned reflexing of those over nineteen was too insensitive, askew and laggard to permit the faultless, coolly comprehending performance required and to do so within the exquisitely critical time limits, uniquely characterizing each function.

Each time the tidal wave of such world news subsides and is followed by moments of everyday continuity, we rediscover Albers and his pictures to be evermore enduringly satisfactory.



Alberses' guest book registering the visits of, among others, Sidney Janis, Theodore Dreier, Charles and Ray Eames, and Buckminster Fuller, the latter on November 27–28, 1951

Graduating altogether from history's precedents of Athens, Florence, Paris, etc., or from any local geographic schools and from powerful individual patronage, Earthian's arts and letters are now entering an entirely new world forum of popular, initially fickle but ultimately magnificent patronage.

International physical events first; individual physical events second; make today's great headlines. Happily amusing, money-making arts and letters get a whole third section news accommodation, while seriously bemusing, monetarily unexploitable arts and letters get small paragraphs, or none.

Television pays the world-champion pugilist and his challenger over a million dollars for the exclusive right to broadcast the minutes-lasting, close-in scene of two humans employing humanity's great cerebrating facilities only for punching dummies.

Nobel prize scientists make the news not because of their scientific accomplishments, but because Nobel awards had been for many pre-inflation years [the] world's biggest money prizes – a lifetime supporting fortune.

At first, slowly, then ever faster, history reverses the order of prominently remembered people and events, and the metaphysical gradually transcends the physical in human reconsideration and inspiration.

Out goes *Time Magazine's* twelve annually successive "Man of the Year" Hitler and in comes a more enduring Picasso. Emerging much more slowly, but far longer to endure come such modest scientist artists as Albers, whose strength is his metaphysical integrity and omni-humanity concern.

Since we seek to comprehend Albers and his metaphysical mind's command of his brain-monitored articulation and since there is confusion in the arts and letters regarding the meaning of *metaphysics, mind and brain*, we turn to the scientists for definitions. Physicists agree that the physical consist always and only of inter-transformable energy as radiation or matter. The physicists also agree that whatever is physical can always be made to move an instrument needle either by electromagnetics or gravity. All human experiences that cannot be made to move an instrument needle are metaphysical. Thinking and mathematical conceptualizing are metaphysical, as are all the concerns of the American Academy of Arts and Letters. Nothing ever comprehended or conceived by Albers moved instrument needles.

Science's only metaphysically stateable generalized principles, which from time to time are found to govern all known physical phenomena of [the] universe, qualify as generalized principles only if they are found to be exceptionless and, as such, inherently eternal.

Brains of humans and other creatures always and only coordinate, store, and retrieve the successive special case sets of physical information fed in by their physical senses. Brains deal only with the temporal and terminal. Brains spontaneously ask for a physical

explanation of the beginning and end of [the] universe. Brains apprehend the physical, minds comprehend the metaphysical – the principles manifest in the physical patternings. Only metaphysically conceptualizing minds have the capability of discovering eternal interrelationships existing only between, and not in, any special case part of a system.

As an example, for millions of years humans were aware that from time to time, five somewhat differently colored and a little bit brighter "stars" reappeared and lingered for varying periods. In all the night sky, only these five brighter ones moved around in startling contrast to the fixity of pattern of the myriads of others. Despite some impressive identification of the rates of reappearance of these Olympian God-identified brighter ones, naught else of importance concerning them was ascertained before 1500 AD because humans had as yet no effective calculating capabilities. Try to do multiplication or division with Roman numerals.

Calculation became popularly feasible with the 1200 AD publication in North Africa of al Khwarizmi's 850 AD Dark Age banishing disclosure that Arabic arithmetic, like the abacus, provides progressive sidewise positioning in successive rows of the products of each other's integer's multiplication and division. In 1200 AD, however, illiteracy was so abysmally prevalent that knowledge of this calculating capability took 300 years to reach the students of Northern Italy and Southern Germany. However, with its arrival in that region came the birth of modern science: the 1500 AD mathematically-navigated voyaging of Columbus and the chain of astronomical breakthroughs of Copernicus, Tycho Brahe, Kepler, Galileo, and Isaac Newton, as well as the art and artifact breakthroughs of the scientist artists: Leonardo, Michelangelo, et al.

The astrophysical chain of events altogether compounded to permit Newton's discovery of the only metaphysically stateable gravitational law which showed that the intensity of the interattraction of any two celestial bodies is initially proportional to the product of their masses and varies at a rate of the second power of the arithmetical distances progressively intervening – double the distance and reduce the interattraction to ¼ of its previous intensity.

Ask Newton what gravity is and he will answer: "It is a covarying *interrelationship* of two or more bodies inherently non-disclosable by any one of the bodies considered separately."

The welter of misinformation of all the yesterdays is each day displaced by a greater inventory of more reliable fundamental information regarding an ever larger and more inclusive world concept. The [members of the] nineteen and younger space-flight-guiding generation mentioned earlier were not born brighter and more sensitive than their elders. They were born exactly the same but their innate brightness and sensitivity are every year less blemished and dulled by the loving misinformed ministrations of the older ones. Experiment shows that the present nineteen and younger when exposed to Albers spontaneously sense his integrity and respond comfortably to his esthetic communication. The younger they come the better they like him.

I have reviewed all the foregoing to identify what it is that *minds* can do that brains cannot, for Albers always used his mind. Only minds can discover and employ the only mathematically expressible principles governing eternal interrelationships. Interrelationship was the essence of Albers' concern. Brains deal only with the sensational, the special case, terminal events. Only minds can conduct science and produce art. After minds' discoveries, brains can be programmed to remember the covarying formulae of those eternal interrelationships. All that is of enduring value in human history relates to the human employment in theory and deed of the metaphysical principles which only human minds have discovered and only human minds can employ.

Cosmic in scale, all of the foregoing is relevant to Josef Albers, for he was a scientist artist – an original discoverer of cosmic principles who deliberately and lovingly realized them in special case physical articulations.

Albers' articulations were many and varied, but all of them comprehended the eternal generalized principles governing physical formation and transformation which he communicated so eloquently to the artist scientists innate in others as to inspire a whole generation of mid-20th century students. His inspiration of students was so great as to impart regenerative momentum to the inspiration he had engendered. This made teachers of his students, who, in turn, became teachers. Albers' perceptivity was so magnificent and his sensitivity so humanly thoughtful as ultimately to advance all of human sensitivity and comprehension, a fact which will be clearly realized only half a century hence when the augmentative waves of comprehension and articulation which he propagated have traveled in an embracing manner around our planet.

Albers' regenerativity was first manifest as one of the small team of teachers during the prolific years 1923–1933 of the German Bauhaus.

In 1933 Albers became one of the small founding staff of teacher-trustees of Black Mountain College in North Carolina where he stayed until 1948, within which fifteen years he was the benign rector of that "dwarf star" college during its most brilliant world-around sighted "nova" period.

In 1950 he became head of the Department of Design at Yale University, where he remained until retirement in 1958.

Albers' artist-scientist teaching was always gently unassuming, exquisitely simple, yet immaculately elegant.

Albers' sensitivity gave him access to nuances of [the] physical universe's most powerful secrets. It opened, for instance, a whole field of mathematically brilliant insights into the positive and negative foldability of paper or other crisp films or metal sheets with results as multi-dimensionally beautiful as they were scientifically surprising, for some of them physically anticipated complex electromagnetic waves as well as Einstein-Riemann curved space wave propagations.

But [the] most memorable of Albers' teachings were his lectures on the harmonic properties of color. Albers' compositions in color harmonics were as comprehensively ranging, exquisitely defined, progressively evolved and profoundly simple as musical compositions by Bach. Scientifically informed regarding human's optical mechanics, Albers employed time incremental notation considerate of inherent tuning-in lags and human perception which devising, like the musical composers' formal notation, clearly defined harmonic color exposition increments of various magnitudes of contrast, emphasis, frequency, harmonic mix and duration modulating.

Irrepressibly eager to have his students share his own delight in color harmonics, one Sunday morning in August 1948, when I was fortunate enough to be present, Albers developed his system of simple squares within squares, and of squares beside squares as explicit articulations of his color harmonics with, for instance, the powerful and subtle effects of very minutely varying widths and numbers of color bands of the concentric squares. The varying band widths were proportional to the magnitude of any one given color's juxtapositional properties, as those brought out certain scientifically predictable and intuitively sensed harmonic effects in adjacent colors. When he developed this form, he did not do so with any idea of its becoming a gallery and collectors' item. It was only Albers' love of his students and his desire to have them share the delight his spontaneous insights afforded that inadvertently introduced this new, world-around, museum and collectors' painting form. Its birth, like the rest of Albers' work, was never conceited. He never deliberately strove to develop a collector-recognizable personal idiom. Albers had no such thoughts and did not profess being an artist. He professed only his love of communicating to others his joy in realizing special case expositions of the exquisite beauty of the set of generalized principles he had been so fortunate as to find. He sought also to share his joy of awareness of the vast range of special case realizations potential in those generalized principles.

Any[one] lucky enough to have known Josef Albers cannot think of him without thinking a great deal about his extraordinary wife, Anni, and of her own weaving art. Since Anni, herself, has for decades been recognized around the world as a great artist, her story has been told by others and will continue to be told by others. But the mystery that envelops all that is great and will always envelop the art of Josef Albers has woven deeply into its mystical warp and woof a half century of the gently loving ministrations of Anni who called her, always-clearly-to-her "great artist" husband, Yuppi.

1. In the version published in *Leonardo* 11, no. 4 (autumn 1978): 310–12, this line reads: "When Albers was seven, radium was discovered; when he was ten, the electron was discovered, followed in a few years by X-rays, cosmic rays, electromagnetics in general" — Ed.

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Lecture given at a dinner of the American Academy and Institute of Arts and Letters in New York City on January 18, 1978, subsequently published in slightly-modified form in *Leonardo* 11, no. 4 (autumn 1978): 310–12.

Typescript, Box 85, Folder 16, The Papers of Josef and Anni Albers.

Richard Buckminster Fuller (1895–1983) was an American geometrician, educator, engineer and architect-designer renowned for his comprehensive perspective on the world's problems. For more than fifty years, he developed groundbreaking solutions that reflected his commitment to the potential of design innovation. His aim was to create technology that does "more with less," and therefore can improve human lives. One of Fuller's lifelong interests was using technology to revolutionize construction and improve human housing. In 1927, after inventing an easily built, air-delivered, modular apartment building, he designed the Dymaxion House, an inexpensive, mass-produced home that could be airlifted to its location. After 1947, the geodesic dome, a result of his revolutionary discoveries about balancing compression and tension forces in building, dominated Fuller's life and career. Fuller and Albers met at Black Mountain College in 1948, when Buckminster Fuller arrived to replace the last minute cancelation of the Chicago architect Bertrand Goldberg. The following summer, on the recommendation of Albers, the remaining faculty asked Fuller to return to direct the 1949 summer session. Fuller's two summers at Black Mountain were to have far-reaching influence. The friendships formed with John Cage, Merce Cunningham, Ruth Asawa, Theodore and Barbara Dreier, and Josef and Anni Albers were to last a life-time.

Correspondence between the Alberses and Buckminster Fuller (1959–1981), Box 2, Folder 55, The Papers of Josef and Anni Albers.

Richard Buckminster Fuller visited the Alberses at their house in Orange, Connecticut, on November 27–28, 1951. Alberses' guestbook 1950–1977, page 2, Box 29, Folder 10, The Papers of Josef and Anni Albers.

# Josef Albers. A Biography 1888–1976

María Toledo

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1 Magdalena Schumacher and Lorenz Albers, Josef Albers' parents

## 1888

Josef Albers was born on March 19, **1888** in Bottrop, a small and traditional industrial city in the Ruhr valley, in the region of Westphalia in northwest Germany, into a working-class Catholic family with a craft tradition. His paternal grandfather, Lorenz Albers, was a carpenter; his father, who bore the same name, was a house painter and a skilled and practical man; and his mother, Magdalena Schumacher, came from a family of blacksmiths. Albers' origins in a family of craftsmen and his resulting knowledge of manual work would be crucial for his subsequent teaching activities. Josef was the eldest of the four children born to the marriage. He was followed by a brother, Anton Paul, born two years later, and then by two sisters, Magdalena and Lisbet. When the youngest daughter was only two their mother died, and their father remarried a year later.

## 1902–1915

Between **1902** and **1905** Josef attended the Präparandenschule in Langenhorst where, despite his father's misgivings, he chose to devote himself to art.

Between **1905** and **1908** he obediently attended the Lehrerseminar in Büren, a Catholic teacher-training college where he obtained the qualifications he needed to teach in elementary school. In **1908**, aged twenty, Albers visited the Folkwang Museum in Hagen, a gallery founded by Karl Ernst Osthaus in the idyllic region of Sauerland where Albers regularly spent his holidays. In this first, significant contact with modern art he saw original works by Cézanne, Gauguin, Matisse and Van Gogh, among others. In the summer of **1910** he served in the military reserve for a short period. Between **1908** and **1913** Albers was employed as a schoolteacher in his native city and in the towns of Dülmen, Stadtlohn and Weddern. At an early date his experience in rural schools would provide him with the keys to his subsequent vision of education: for Albers, learning should not be based on an accumulation of knowledge and education should aim to integrate the individual in his or her community and in society through experimentation. However, more than learning and teaching, it was art that primarily interested Albers.

In **1913** he moved to Berlin, a modern metropolis, very different to his native city, where he visited museums and art galleries. There he attended the Königliche Akademie der Künste [Royal Academy of Arts] where he studied art teaching and on June 30, **1915** obtained the qualification required to teach art in secondary school. At the Academy, Albers was profoundly struck by the pioneering and revolutionary teaching method of his professor Philipp Franck, who encouraged his students to give classes to school students in the working-class area in which the Academy was located. Due to his work as a teacher Albers was exempted from military service,

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**2** Josef Albers (center) and his siblings, ca.1899, courtesy Dr. Martin Walders

**3** Josef Albers, ca.1908

**4** Josef Albers, *Mein Freund Perdekamp!* (portrait of Franz Grosse Perdekamp), ca. 1917. Pencil drawing, 12 1/2 x 8 9/16 in (31.7 x 21.8 cm). The Josef and Anni Albers Foundation (1976.3.424)

though in 1915 his brother died aged twenty-five fighting in the German army in Russia. Albers taught drawing at an institute in Berlin and produced his first oil paintings and watercolors. After two years in Berlin the idea of going back to Bottrop and his family home did not appeal to him but he finally returned. He then made drawing his means of escape and used his acute powers of observation to produce sketches of picturesque motifs such as horse-drawn carriages, yards with chickens, rabbits, owls, imposing village houses and Munster cathedral, although he also focused on other subjects such as the workers' houses in Bottrop, dancers, children and any scene or motif from daily life that attracted his attention.

## 1916

During this period Albers received great personal and intellectual support from Franz Perdekamp, a poet, writer and primary school teacher who would later study art history. Also born in Bottrop, Perdekamp was the only person who understood Albers' artistic interests and became his best friend. In early **1916** Albers fell ill, probably with pneumonia, and was treated for close to six months at the Hohenhonnef sanatorium in the mountains to the south of Bonn. In addition to long walks, Albers spent his time there reflecting on painting and poetry, in both of which he found essential universal and timeless values such as equilibrium and harmony. Albers shared his thoughts with his soul mate Franz in the letters that he wrote to him from the sanatorium and which he signed "Jupp."

In November 1916 Albers was present in Duisburg at the performance of a ballet entitled *Die grüne Flöte* [The green flute], directed by Max Reinhardt with a libretto by Hugo von Hofmannsthal and music by Mozart, which made an enormous impression on him. As a result of this experience, and inspired by the performance, he produced a series of drawings and lithographs in which he aimed at maximum effect through minimal means, an approach that would come to define his thinking and through which he promoted intense and effective results based on economy of form and means, clarity and simplicity. During this period Albers also produced self-portraits. His interest in Cubism, primarily the perceptual structure of light, developed during his time at the Handwerker- und Kunstgewerbeschule [School of Applied Arts and Crafts] in Essen between 1916 and 1919 and was consolidated by his studies with the Dutch artist Jan Thorn Prikker, a stained-glass maker and drawing teacher who played a key role in Albers' future artistic development and in his interest in the issue of the interaction of light and color.

## 1917–1919

Around **1917** Albers executed his first commissioned work, the stained-glass window *Rosa Mystica Ora pro Nobis* for the local Catholic church of St. Michael in Bottrop (subsequently destroyed). In **1918** he exhibited various lithographs and wood engravings at the Galerie Goltz in Munich. In **1919** the artist succeeded in leaving Bottrop for the second time. In October he headed for Munich, where he studied drawing and painting for six months with Franz von Stuck (who had taught Kandinsky and Klee a decade earlier) and attended Max Doerner's course on painting techniques at the Königlich-Bayerische Akademie der Bildenden Künste [Royal Bavarian Academy of Fine Arts]. However, Albers' early and profound interest in color and light would soon lead him to move away from his teachers, and his discovery of Cézanne, Matisse, Delaunay, Munch, Van Gogh and the Die Brücke group would be far more revealing in this sense. Among all these artists it was undoubtedly Cézanne who most interested him. From the time of his arrival in Munich, Albers drew with ever increasing fluency and security: particularly notable are his ink drawings with their refined, calligraphic feel.

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5 Lyonel Feininger, *Cathedral*, cover illustration for the Bauhaus Manifesto by Walter Gropius, 1919

6 Josef Albers, stained glass window, Otte House, Berlin, 1922–1923 (destroyed)

7 Josef Albers (with upraised arm) and fellow Bauhaüsler, Bauhaus Weimar, ca. 1923

# 1920–1923

In **1920** Albers came across a leaflet from the Bauhaus that contained the manifesto and program of the school, written by Walter Gropius, as well as a powerful woodcut of a cathedral by Lyonel Feininger on the front cover. In contrast to traditional art schools, this pioneering institution offered new teaching methods: a reform-based project grounded on collective endeavor in which theoretical and practical teaching were closely linked and in which manual work aimed to produce objects and spaces for a fairer society. The program offered by the Bauhaus conformed to what Albers was looking for at that point, namely liberation from the weight of tradition and an encounter with the unknown. He thus took the most important decision of his life and in the autumn of 1920, a year after the school's founding, he arrived, aged 32 (as the eldest of its students), at the Staatliches Bauhaus in Weimar, where he trained until 1923.

Having completed during his first term the preliminary course given by Johannes Itten and by an assistant teacher, the composer Gertrud Grunow, Albers was one of the three students who (successfully) requested to be exempted from the preliminary drawing course. Instead he was accepted in a craft workshop, but although he wanted to attend the glass workshop, his teachers advised him to study mural painting first. Opposed to this decision, Albers decided to make stained-glass pieces. During his years at the Bauhaus he devoted little time or effort to painting. His limited financial resources prevented him from acquiring paint and canvases and he was obliged to seek out other materials through which to express his artistic ideas. He thus went to rubbish tips in search of the material he needed for his compositions: assemblages of colored pieces of glass from bottles, mounted with tin or wire and designed to be hung in front of a window. Albers' interest thus focused on the way of perceiving light, determined by the actual structure of the stained-glass pieces. When the workshop was closed down, the space it occupied was used for more urgent requirements. The obligatory exhibition at the end of the second term required students to show the work they had produced up to that date. Albers hung a number of his compositional studies in glass. After the exhibition he received a letter from his teachers which not only confirmed that he could continue with his studies but named him head of the new glass workshop, which they decided to reopen in **1921**. The influence on Albers of Jan Thorn Prikker (who can be considered one of the great stained-glass masters of his day) was particularly evident during the second term of Albers' first year at the Bauhaus, between 1920 and 1921. Around 1922–1923 he was finally able to mount his glass pieces with lead, when the forms and organization of their surfaces became increasingly regular and geometrical. Albers created large stained glasses as part of his contributions to the Bauhaus collaborations, particularly for two private houses designed by Walter Gropius near Berlin, the Sommerfeld and Otte residences, and for the reception room in Gropius' office in Weimar, for which Albers would later make a large table and a wooden shelving unit. His gouaches of this period are studies based on a single color scale; experiments in gray, black and white.

Albers met Annelise (Anni) Fleischmann in **1922**, shortly after she arrived in Weimar. Anni was a resolute young woman aged twenty-two who had renounced the lifestyle provided by her wealthy Jewish family in Berlin and had decided to devote her life to art. After a first unsuccessful application she was accepted at the Bauhaus thanks to the help of Albers, who advised her on her presentation project. Anni enrolled at the Bauhaus in April and the following year she joined the textile workshop. Deploying a markedly experimental approach, in **1923** Albers designed an alphabet (now in the MoMA, New York) based on squares, circles and fractions of these shapes in different sizes. With the aim of making it usable on exterior surfaces, he designed it in relief using opaline glass. When Johannes Itten left the Bauhaus due to disagreements with its director, Walter Gropius appointed Moholy-Nagy as teacher of the preliminary course and persuaded Albers to teach it jointly with him, thus making him the first Bauhaus student to become a teacher there. At a students' meeting held in the autumn of 1923, towards the end of the first official Bauhaus exhibition and before the start of the new term, Gropius announced the calendar for the forthcoming obligatory introductory course, which Albers would teach. Albers was thus made to give classes in the use of basic materials in order to introduce the new students to craft and to the concept of invention through the use of a limited number of resources and artistic devices. While he already had experience teaching in


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**8** *Junge Menschen 5* (Hamburg), no. 8 (November 1924). Special Bauhaus issue

**9** Josef and Anni Albers, Bauhaus Dessau, ca. 1925

State schools in subjects such as religion, art and gymnastics, he had never taught crafts and had in fact abandoned teaching to become a painter. As an amateur in crafts, his knowledge derived more from observation than practice and his lack of experience and skills in this field led him to hesitate before accepting the position. What Albers initially took on as an unavoidable commitment would eventually become an irrepressible passion, even though he considered himself somewhat relegated, since he had to give his class in the Reithaus, located at some distance from the school's main building. Situated in the middle of a park, the Reithaus had originally been stables but the local authorities had handed it over to the Bauhaus. Nonetheless, Albers made the most of the situation and of the building, which was brightly lit through large windows. After the first term, intensely interested in form and visual perception, he changed the name of his course from "Principles of Craft" to "Principles of Design." He decided to focus on the essential physical properties of materials and on the principles of construction, proposing exercises using just one material or combining various materials such as matches, rock, wire, straw, cellophane and paper, which the students folded, cut and manipulated. Before encouraging their creativity and imagination, Albers required his students to acquire manual skill and a mastery of technique, thus promoting independent thought and experimentation.

## 1924

In order not to lose the financial support that he received from the regional educational authorities, in January **1924** Albers went back to Bottrop and once again taught a course for a term. On his return to Weimar he noticed that his students were dedicating too much time to projects for the other courses. He complained to Gropius and, with the agreement of the other teachers, was able to ensure that his *Vorkurs* [preliminary course] became a key reference point for education at the Bauhaus. In November of that year Albers published his first important text, "Historisch oder Jetzig" [Historical or Contemporary] in a special issue of the magazine *Junge Menschen* devoted to the Bauhaus. This was a revolutionary text that championed the liberation of learning from history and from mere accumulation of knowledge, proclaiming a committed independence that allowed people to speak with their own voice while encouraging the union of individuals as opposed to individualism. This unity would take shape in Albers' key aim for the Bauhaus: the quest for simplicity, clarity, the essential and synthesis.

## 1925

Following State withdrawal of funding, in October 1924 the director and professors declared the school closed and on April 1, **1925** their contracts came to an end. When the Bauhaus moved to Dessau, Albers was appointed professor and taught Basic Design. His qualities and endeavors as an educator were highly appreciated by Gropius. Obtaining a secure job and a regular salary encouraged him to ask Annelise for her hand and they were married in Berlin on May 9, 1925. Albers' life with Anni provided him with a stability and harmony that allowed him to concentrate on design and teaching. Following their wedding, the Alberses went to Italy. The discovery of the work of Giotto and of Tuscan architecture with its alternating bands of colored stone would be crucial for the abstract style of geometrical compositions based on parallel lines that Albers produced with an enormous sense of rhythm and equilibrium in his stained-glass pieces and architectural drawings of this period. Supervised by Albers, these stained-glass pieces were produced with great care and precision by professional craftsmen. Albers transformed stained glass – a technique traditionally employed in church windows for depicting religious scenes – into a totally new and innovative medium. The radical use of multi-layered glass treated with sandblasting produced intensely spiritual effects of light and color. Albers thus created refined geometrical compositions that would come to be known as his "thermometer" style.

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10 Josef Albers, *Barcelona vom Hotel Colón '29*, ca. 1929. Gelatin silver print mounted on cardboard, detail from a photo collage, 11 5/8 x 16 1/8 in (29.5 x 41 cm). The Josef and Anni Albers Foundation (1976.7.11)

11 Josef Albers, *Untitled (Bullfight San Sebastian)*, ca. 1930 [sic]. Gelatin silver prints mounted on cardboard, 11 5/8 x 16 1/8 in (29.5 x 41 cm). The Josef and Anni Albers Foundation (1976.7.14)

12 Josef Albers, *Paris Tour d'Eiffel VIII '29*, ca. 1929. Gelatin silver print mounted on cardboard, detail from a photo collage, 11 5/8 x 16 1/8 in (29.5 x 41 cm). The Josef and Anni Albers Foundation (1976.7.50)

## 1926–1927

Albers introduced the idea of using paper as a starting point for studies on structural organization in his Basic Design course at the Bauhaus, with the aim of encouraging his students to look, think and make. Subsequently, in his classes at Black Mountain College and at Yale he would continue to use the paper construction exercises that he had devised at the Bauhaus. Around this time Albers designed large-scale stained-glass windows. Manufactured by the Berlin firm of Gottfried Heinersdorff, Puhl & Wagner, they were installed in the Grassi Museum in Leipzig and at the Ullstein publishing house, which belonged to his wife's family, in Berlin-Tempelhof (destroyed during World War II). During this period Albers began to work with typography and also designed an upholstered armchair in bent wood and other pieces of furniture for the Berlin apartment of his friends Fritz and Anno Moellenhoff, in addition to household objects in glass, metal, wood and porcelain. In **1927** the Alberses went on holiday to Tenerife (Canary Islands), traveling on a banana boat on a five-week trip.

## 1928

The financial situation of the Bauhaus deteriorated once again. The architect Hannes Meyer replaced Walter Gropius as director following the latter's resignation and Moholy-Nagy left the school. Albers thus taught the preliminary course on his own and also directed the furniture workshop, replacing Marcel Breuer. Albers devised a new method for teaching design, which soon aroused considerable interest and attracted numerous students. He took part in the 6th International Conference on Drawing, Art Teaching and the Applied Arts in Prague, giving a lecture entitled "Creative Education," which would later be published with the title "Werklicher Formunterrich" [Teaching Form through Practice] in issue number 2–3 of the Bauhaus magazine. The magazine's front cover featured a photo of Albers as one of the twelve teachers at the Bauhaus, together with Wassily Kandinsky, Lyonel Feininger, Paul Klee, Hannes Meyer, Hinnerk Scheper, Joost Schmidt, Gunta Stölzl, Hans Wittwer, Ernst Kállai, Oskar Schlemmer and Mart Stam. Dating from this period are Albers' first photographs, in which he explored the chromatic possibilities of black, white and gray and focused on presenting the same subject in different ways. Among his collages made of photographs glued onto card are portraits of Klee, Kandinsky, Gropius, Schlemmer and Bayer, among others, as well as images of railway tracks, trees, staircases and other elements that emphasize the rhythm of parallel lines, while he also took photographs of mannequins in shop windows. Albers designed a second armchair for serial production, this one a functional, low-cost model with harmonious proportions made from laminated, bent wood. Easy to assemble, it could be transported in a flat pack. He was commissioned with projects to create stained-glass windows for the lecture hall in the new Folkwang Museum in Essen and for a modern church in Berlin.

## 1929

Albers presented twenty stained-glass paintings in an exhibition of the work of the Bauhaus teachers (including Kandinsky and Klee) in Basel and Zurich. When Hinnerk Scheper, director of the Bauhaus' wallpaper workshop, moved to Moscow for two years, Albers took over that workshop. That summer the Alberses traveled from Dessau to Barcelona (passing through Geneva and Avignon) where they visited the International Exhibition and the German pavilion designed by Ludwig Mies van der Rohe, who would be appointed director of the Bauhaus the following year. From Barcelona they continued towards Biarritz, where they met up with the Klees and the Kandinskys. They then visited San Sebastian, attending a bullfight, of which Albers took photos. From Biarritz they returned to Dessau via Paris.* The entire trip is recorded in numerous photographs taken by Albers.

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13. Josef Albers with Herbert and Muzi Bayer, Ascona, ca. 1930
14. One of Josef Albers' (center, standing) classes in the workshop building, Bauhaus Dessau,1931 [cat. 142]
15. Josef and Anni Albers on their arrival in the United States, November 1933. Photo: Associated Press

## 1930–1932

In February **1930** Albers gave his first public lecture outside the Bauhaus, on the subject of creative art training, in a library specializing in the applied arts in Berlin. There he met with his former teacher in Berlin, Philipp Franck. That summer the Alberses traveled to Ascona in Switzerland via Italy, a trip that Albers once again documented with his photographs. After Hannes Meyer's resignation and following Mies van der Rohe's acceptance of the directorship of the Bauhaus, Albers was appointed associate director at the school. In **1931** he designed furniture for a hotel sitting room for the large Berlin Building Exhibition and embarked on his first series of gouaches known as the *Diskant* or *Treble Clef* series. This was the first time that the artist made use in a repeated manner of a single form with slight compositional variations, in different color ranges and different techniques. Given the shortage of funding at the Bauhaus in Dessau, the school was forced to relocate to Berlin. The Alberses moved to the Charlottenburg quarter, living for about a year in an apartment lent to them by Anni's family. In May **1932** Albers held his first solo exhibition at the Bauhaus, presenting glass pieces created between 1920 and 1932. His work was influenced by the collage technique, widely used at the Bauhaus. Of the thirteen years (1920–1933) that Albers was at the Bauhaus, during the last ten (from 1923 to 1933) he taught in its three different venues in Weimar, Dessau and Berlin, where he came to be known as a versatile, sensitive teacher and one of the most influential figures of the school. Albers directed the glass, furniture and paper workshops, invented new typographies, produced unexpectedly skilled photographs and was responsible for drawing classes and workshops in which he used exercises based on materials and forms. He was also a talented writer and a fluent lecturer. From that point onwards Albers never abandoned teaching. Among his colleagues he was particularly close to Kandinsky; their friendship and mutual support is evident in the copious correspondence that they maintained after the Bauhaus closed down.

## 1933

Following Hitler's rise to power and the resulting closure of the Bauhaus, Josef and Anni Albers were the first teachers from the school to be invited to teach in the United States at the recently founded Black Mountain College, an experimental and progressive school in North Carolina which promoted freedom in education in a revolutionary way. Albers would teach there for sixteen years. The invitation, headed by John Andrew Rice and Theodore Dreier, was made on the recommendation of Philip Johnson, then director of the new Department of Architecture and Design at the Museum of Modern Art in New York, who had visited the Bauhaus in 1927. Albers received the invitation as a call to participate in the pioneering adventure of constructing a new educational project, preparing students to live in a free, democratic society. He accepted, promising that he would assume the challenge of "opening eyes." The Alberses arrived in New York by boat on November 24 and reached Black Mountain College four days later. The leading newspapers in New York and North Carolina referred to their arrival. The mountain setting with its temperate climate and the lush vegetation of North Carolina produced a positive, welcoming context that made the couple feel at home. The uniqueness of the place contributed to the Alberses' unique experience in this welcoming setting favorable to teaching students. Albers joined Black Mountain College in an enthusiastic, professionally committed manner, aware that the development of any discipline through art contributed to that of the individual. In this sense, the fact that he initially could not speak English did not hinder him from achieving his aims. The total liberty with which he was allowed to give his classes derived from the free structure of the study program itself: a freedom that worked from the outset because it relied on the teachers and students' own sense of responsibility and discipline. As a result, classes emphasized playful, light-hearted aspects and an experimental use of materials. Albers' first paintings executed in America are almost monochrome. These are transitional works that reveal his interest in the perceptual and structural complexity of images.

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16 Josef Albers, *Calixtlahuaca, Mexico,* n.d. Contact print, detail from a photo collage. The Josef and Anni Albers Foundation (1976.7.649)

17 Anni Albers and her parents, Sigfried and Toni Fleischmann, in Mexico, 1937. Photo: Josef Albers

18 Josef Albers, Mitla, Mexico, ca. 1937

## 1934–1935

The Alberses visited Cuba between December 28, **1934** and January 16, **1935** in the company of their friends Theodore and Barbara Dreier. The trip was a response to the invitation extended to Albers by the Cuban designer Clara Porset, who had visited Black Mountain College the previous September, to give a lecture series entitled "A New Vision of Art Teaching and the Process of Creative Activity," which took place in the Lyceum in Havana and was accompanied by an exhibition of Albers' most recent work. The lectures, illustrated with slides, focused on encouraging originality in art teaching. They were given by Albers in German, translated into Spanish by the Cuban teacher, writer, journalist and diplomat Manuel Márquez Sterling and read out afterwards by Clara Porset. The first lecture (December 29, 1934) dealt with constructive forms; the second (January 2, 1935) focused on combinations of forms and materials; and the third (January 4, 1935) analyzed objective representation and the principles of drawing and painting. Albers gave a short talk at the annual convention of the American Federation of the Arts, held in Washington D.C. from May 20 to 22. Between December 26, 1935 and January 21, 1936 he and Anni were in Mexico, a trip suggested by his wife, in the company of the Dreiers. This would be the first of a total of fourteen trips to Mexico and at this point the Alberses started their collection of Pre-Columbian miniatures. He returned to painting and produced his first abstract oils.

## 1936

Between June and August the Alberses were again in Mexico and from August 15 to 25 an exhibition of Josef's graphic work and *Treble Clef* series of gouaches was shown in the lobby of the newspaper *El Nacional*. Albers soon began to admire Pre-Columbian Mexican culture and found inspiration in its architecture and in the rigorous geometry of the country's archaeological sites and colonial buildings, which influenced his work. This is evident in his use of the diagonal, representing Pre-Hispanic geometrical structures and probably inspired by the sloping forms of the Pre-Hispanic pyramids at Teotihuacán and Monte Albán. Albers produced a new series of abstract linear drawings. Between 1936 and 1940, firstly on the invitation of Joseph Hudnut and later on that of Walter Gropius, Albers directed seminars and gave lectures at the Graduate School of Design at Harvard University in Cambridge, Massachusetts.

## 1937–1944

Between April 3 and 17, **1937** Albers' paintings were showcased as part of the first exhibition of *American Abstract Artists* at the Squibb Galleries in New York. Between June 10 and August 6, 1937 the Alberses found themselves once again in Mexico, joined for a month by Anni's parents, who traveled from Germany. In **1939** Josef and Anni acquired American citizenship. From June 8 to September 8 they traveled again to Mexico, where Albers printed the lithographic series *Alpha, Beta, Gamma, Delta* at the Taller de Gráfica Popular in Mexico City. Given the political situation prior to the outbreak of World War II, Anni's parents left Germany forever and on June 22 were once again with the Alberses in Mexico. In August, Albers gave classes at the Gobert College in Tlalpan to the south of Mexico City. In **1940** they made another trip to Mexico and between 1940 and 1942 Albers executed collages with leaves and small linear compositions in drypoint. In **1941** he took a sabbatical leave, which he spent with Anni in New Mexico and in Mexico. In the spring he gave classes in basic design and color at the Graduate School of Design at Harvard University and embarked on his series of studies entitled *Graphic Tectonic*, based on abstract geometrical compositions and clearly influenced by Pre-Columbian art and architecture. In **1942** these would give rise to a series of zincographs of the same title. In **1943** Albers started two series of geometrical abstractions: *Biconjugate* and *Kinetic*. In **1944** at the Biltmore Press,

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19 Josef and Anni Albers at Black Mountain College, 1938. Photo: Theodore Dreier

20 Josef Albers teaching at Black Mountain College, 1944. Photo: Josef Breitenbach

21 Josef Albers, *America*, 1950. Brick relief wall. Harkness Commons Graduate Center, Harvard University, Cambridge, Massachusetts

Asheville, North Carolina, he produced a series of prints with geometrical forms against backgrounds that reproduce veins in wood and the texture of cork.

## 1945–1948

Gradually the initial atmosphere of cordiality and intellectual freedom at Black Mountain College soured to the point where problems and disagreements became increasingly frequent. The absence of rules and regulations and the abuse of the freedom proposed as an educational ideal at the school lay behind these contretemps, such as the one between Albers and John Waller, a young idealist set on imposing order. The increasingly difficult atmosphere, together with Albers' own internal conflict between his dedication to teaching and his artistic practice, led the Alberses to take a sabbatical year in October **1946**. They drove across the United States, down to New Mexico, and then, in May **1947,** on to Mexico, where Albers embarked on a series of paintings entitled *Variants* or *Adobes*, clearly influenced by Mexico's vernacular adobe architecture. In May of that year Albers wrote to Black Mountain College asking to extend his sabbatical year. His request arrived at a moment of crisis at the school, with interminable arguments and numerous conflicts. Finally, Albers agreed to return for the first term of the 1947–1948 school year. He committed himself to preparing students for graduation and to organizing the **1948** Summer Art Institute at Black Mountain College, which would be one of the most successful in its history. In addition, he was elected a member of the Advisory Committee of Yale University School of Art. The first exhibition of Albers' work in post-war Germany, entitled *Josef Albers, Hans Arp, Max Bill*, opened at the Galerie Herbert Hermann in Stuttgart. New conflicts at Black Mountain College led to the resignation of the rector, Albert William Levi. In an attempt to find solutions to this crisis, Albers agreed to replace him in October 1948. Tension and conflicts followed, particularly one involving Albers' esteemed friend Theodore Dreier who, entrenched in the school, became isolated from his colleagues.

## 1949–1951

Josef and Anni Albers presented their resignations from Black Mountain College in February **1949**. That summer they traveled again to Mexico, this time with the aim of escaping the conflicts and problems of the preceding months. Between June 10 and August 15 Albers directed four seminars on design at the University of Mexico City. He was appointed guest professor at the Cincinnati Art Academy and at the Pratt Institute in Brooklyn, where he taught color theory and directed a workshop. He embarked on his series *Structural Constellations*, based on linear, geometrical forms expressed through drawings, engravings in white lines on black vinyl, engravings on tin plates, inkless intaglio prints, reliefs on paper and large mural reliefs made from different materials. Albers started his series *Homage to the Square*, a series of which he produced over two thousand different versions, offering the viewer an infinite range of visual experiences. The variations and visual ambiguities were achieved entirely through the interaction of color and the effect of its juxtaposition. In his paintings light transmits visual instability: it is an immaterial and perceptual illusion that is projected through the interaction of color, which, despite the ambiguously rational appearance of Albers' works, arouses emotional reactions in the viewer. On the invitation of Yale University in **1950**, the Alberses moved to New Haven, Connecticut, where Albers remained until 1958 as head of the Design Department, teaching preliminary color classes and a new course on design. In addition, he was made guest professor at the Graduate School of Design at Harvard and produced a brick mural entitled *America* for the Swaine Room at the Harkness Commons Graduate Center in Harvard University, designed by Walter Gropius.

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**22** Josef Albers teaching at Yale University, ca. 1955–1956. Photo: John Cohen

**23** Josef Albers, *White Cross Window*, 1955. Photosensitive glass window, Abott's Chapel, St. John's Abbey, Collegeville, Minnesota

## 1952–1955

Between February 9 and 17, **1952** Albers gave classes in the Department of Architecture at the University of Havana. The Sidney Janis Gallery organized a solo exhibition in New York. That summer, the Alberses once again went to Mexico, where they visited the Maya ruins in Yucatán. Albers designed a white brick fireplace for the Rouse house in North Haven, Connecticut, designed by the Chinese-American architect King Lui Wu for Benjamin Irving Rouse, all three professors at Yale. Albers was made a Fellow of Saybrook College of Yale University. Between June 8 and September 9, **1953** the Alberses traveled around Peru and Chile. Josef taught a course in the Department of Architecture at the Universidad Católica in Santiago and lectured at the Escuela Nacional de Ingenieros in Lima, where he met Fernando Belaúnde Terry, an architect and subsequently president of Peru. In its September-October issue of that year the critic Juan Acha wrote an article for the architectural magazine *El Arquitecto Peruano* which paid special attention to Albers' work. In Lima he met up with Max Bill, director of the recently founded Hochschule für Gestaltung in Ulm, Germany, who invited him to give preliminary classes there in drawing, design and color between November 24, 1953 and January 23, **1954**. In addition, Albers was also requested to offer advice on the organization of the new school's curriculum and to share the basic principles of his teaching methods, which were extremely different from traditional models of art teaching. Albers admired the school's pioneering spirit and the committed endeavors of the project's founders: Inge Aicher-Scholl, her husband Otl Aicher, and Max Bill. Albers considered art to be a discipline that could not be taught, at least directly. Rather, he saw it as a visual formulation of our reaction to the world, the universe and life. Hence the two basic aspects of art teaching should be formulation and articulation and not self-expression arising from emotion. For Albers, art derived both from the conscious and the subconscious. Clarity of vision and thought were fundamental to his approach to art teaching. From June 23 to August 3, 1954 the Alberses spent the summer in Hawaii, where he taught courses and gave lectures at the University of Hawaii in Honolulu. Albers once again taught at the Hochschule für Gestaltung in Ulm from May 19 to August 9, **1955**. That year he participated in Documenta I in Kassel and he designed *White Cross Window* for the Abbot's Chapel of St John's Abbey Church in Collegeville, Minnesota.

## 1956–1960

In **1956**, Yale University Art Gallery organized the first retrospective exhibition of Albers' work. In July and August, the Alberses made yet another trip to Mexico. In **1957** Albers exhibited at the Denise René gallery in Paris. He received the Cross (1st class) of the Order of Merit of the Federal Republic of Germany and was awarded a degree *honoris causa* in Fine Arts by the University of Hartford, Connecticut. Between September and December Albers showed a selection of works at the 4th São Paulo Biennial held at the Museu de Arte Moderna. Albers again taught a preliminary design course entitled "Structural Organization" before he retired in **1958** from the Department of Design at Yale University, although he continued there as visiting critic until 1960. He was invited to teach and lecture at numerous art schools across America, including the University of Minnesota, the Kansas City Art Institute, the Art Institute of Chicago and the Department of Architecture at Princeton University. Between June and August 1958 Albers presented two works at the 1st Inter-American Biennial of Painting and Printmaking, held at the Instituto Nacional de Bellas Artes in Mexico City. He received the Konrad von Soest Prize for Visual Arts awarded by the Regional Government of Westphalia-Lippe in Germany. In **1959** he received a grant from the Ford Foundation. Albers created a mural entitled *Two Structural Constellations* in carved marble and gold leaf for the lobby of the Corning Glass Building in New York, and *Manuscript Wall*, a recessed mortar construction, for the Manuscript Society Building at Yale University.

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**24** Josef Albers, *St. Patrick's Altar Wall*, 1961. Masonry brick and gold leaf wall, Church of St. Patrick, Oklahoma City

**25** Josef Albers, *Loggia Wall*, 1967. Brick relief wall, College of Science, Rochester Institute of Technology, Rochester, New York. Photo: Robert Bagley

## 1961–1963

In **1961** Albers designed *Two Portals*, a glass and bronze mural for the lobby of the Time and Life Building in New York, and the brick altar wall for the church of St. Patrick in Oklahoma City. In **1962** Albers taught at the University of Oregon in Eugene. He was awarded a Graham Foundation grant and also a degree *honoris causa* in Fine Arts by Yale University. The Alberses traveled to Mexico again. In May of that year Josef worked as invited artist in the Tamarind Lithography Workshop in Los Angeles, where he produced the series of lithographs *Interlinear*. His monumental mural in red, black and white Formica entitled *Manhattan* was installed in the lobby of the Pan Am Building in New York, although it would be taken down in 2001 and subsequently destroyed. Albers produced *Repeat and Reverse*, a public sculpture of stainless steel bars that reproduced an illusionistic linear drawing. It was installed over the entrance of the Art and Architecture Building of Yale University, designed by Paul Rudolph. In **1963** Yale University Press published the artist's key work *Interaction of Color*, the result of years of pedagogical activity. It included a text and silkscreen plates based on his course on color. Employing a markedly didactic tone, the book presents Albers' theoretical-practical investigations into the field of chromatic relations and sets out a series of problems resolved by means of trial and error, limiting the function of color to more visual than emotional ends. The text is a compilation of chromatic exercises and studies created by Albers' students to explore the possibilities of color and work with colored, cut-out papers with a rigorous discipline that made them more self-critical and reflexive. In October of that year Albers was invited again to the Tamarind Lithography Workshop in Los Angeles.

## 1964

On March 8, **1964** the exhibition *Josef Albers: Homage to the Square* opened in Caracas. Organized by the Museum of Modern Art in New York and under the auspices of the International Council, it traveled until 1965 to Montevideo, Buenos Aires, Lima, Rio de Janeiro, Guayaquil, Bogotá, Santiago de Chile and Mexico City. The exhibition then returned to the United States, where it traveled until January 1967. In June 1964 Albers attended again the Tamarind Lithography Workshop in Los Angeles, where he produced the portfolio *Midnight and Noon* comprising eight monochrome lithographs from the series *Homage to the Square*. From September 28 to October 24, Sidney Janis Gallery presented in New York the exhibition *Albers: Homage to the Square. 40 New Paintings by Josef Albers*. He taught classes at Smith College, Northampton, Massachusetts, and at the University of Miami, Florida. Albers received a degree *honoris causa* in Fine Arts from the California College of Arts and Crafts, Oakland, and was awarded a medal by the American Institute of Graphic Arts in New York for his outstanding activities in that field.

## 1965–1967

Between February 23 and April 25, **1965** Albers showed his work alongside that of Frank Stella, Ellsworth Kelly, Victor Vasarely, Bridget Riley, the Spanish group Equipo 57 and others in the celebrated traveling exhibition on Op Art entitled *The Responsive Eye*, curated by William C. Seitz at the Museum of Modern Art, New York. The show marked Albers' triumph as an artist. From that point onwards Albers received commissions for murals and his paintings were enthusiastically received. In April 1965 he gave three important lectures in the James Lippincott Goodwin Theatre at the recently inaugurated Austin Arts Center at Trinity College in Hartford, Connecticut. The lectures were entitled I. "General Education and Art Education: Possessive or Productive," II. "One Plus One Equals Three and More: Factual Facts and Actual Facts," and III. "Art Studies as Basic Training: Observation and Articulation." In 1969 they were published by Trinity College Press with the title *Search Versus Re-Search*. In **1966** Albers was made guest professor at the University of South Florida, Tampa, and was awarded a degree *honoris causa* in Law by the University of Bridgeport, Connecticut. In February **1967** the Alberses were visited in New Haven by the Mexican architects Luis Barragán and Ricardo Legorreta and the artist Mathias Goeritz. Once again they went to Mexico, where they attended the presentation of an exhibition of silkscreen prints by Albers from the *Homage to the Square* series at Inés Amor's Galería de Arte Mexicano. Founded in 1935, this was the

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**26** Josef Albers, 1971.
Photo: John Naar

first gallery to be established in Mexico City and it played a key role in the country's cultural and artistic life. At the International Exhibition in Pittsburgh Albers was awarded the Carnegie Institute Prize for Painting. His painted mural *Growth* was installed at the campus of the Rochester Institute of Technology in the lobby of the Administration Building, while his brick relief *Loggia Wall* was placed in the Science Building. Albers was awarded a degree *honoris causa* in Fine Arts by the University of North Carolina, Chapel Hill, and one in Philosophy by the Ruhr-Universität, Bochum, West Germany.

## 1968–1971

In **1968** Albers was awarded the Grand Prix at the 3rd American Printmaking Biennial in Santiago de Chile and the Grand Prix for Painting by the State of Nordrhein-Westfalen, Germany. He also received the Grand Cross of the Order of Merit of the Federal Republic of Germany and was elected a member of the National Institute of Arts and Letters, New York. In April an exhibition of his work opened at the Westfälisches Landesmuseum für Kunst und Kulturgeschichte in Munster which subsequently traveled around Europe until 1970. Documenta 4 in Kassel devoted an entire gallery to his work. In **1969** the gallery sent the exhibition *Homage to the Square* to the Museo Universitario de Ciencias y Arte of the Universidad Nacional Autónoma de México (UNAM). Albers was awarded degrees *honoris causa* in Fine Arts by the University of Illinois, Champaign-Urbana, the Minneapolis School of Art, and Kenyon College, Gambier, Ohio. In **1970** the Alberses moved to Orange, Connecticut, fifteen kilometers from New Haven where they previously lived. Albers was made an Honorary Citizen of Bottrop. In **1971** the Metropolitan Museum of Art in New York presented a retrospective on Albers, the first devoted to a living artist, after which he donated thirteen paintings and eight prints to its collection. Albers was awarded the First Class Medal of Graphic Arts by the Skowhegan School of Painting and Sculpture in Maine and a degree *honoris causa* in Fine Arts by the University of Washington, Saint Louis. That same year the Josef Albers Foundation was established as a non-profit-making organization that promoted "the revelation and evocation of vision through art."

## 1972–1976

In **1972**, as the result of close collaboration with architects, Albers designed a steel sculpture entitled *Two Supraportas* for the facade of the new Westfälisches Landesmuseum für Kunst und Kulturgeschichte in Munster, a relief mural in stainless steel entitled *Gemini* for the lobby of the Grand Avenue National Bank in Kansas City, Missouri, and the mosaic mural *Reclining Figure* for the Celanese Building in New York (destroyed in 1980). He was awarded a degree *honoris causa* in Fine Arts by the Maryland Institute and College of Art in Baltimore and the Gold Medal at the First Print Biennial in Norway. He published *Formulation: Articulation*, a portfolio of 66 silkscreen prints which constitute a summary of his artistic output over the course of forty years. In **1973**, Albers designed the *Stanford Wall* for that university's campus. He received the Distinguished Teaching of Art Award from the College Art Association and a degree *honoris causa* in Law by the University of York, Downsview, Ontario. In **1974** the artist was elected a supernumerary member of the Akademie der Künste in Berlin. In **1975** he received a degree *honoris causa* in Fine Arts from the Pratt Institute, Brooklyn, and was awarded the Fine Arts Medal of the American Institute of Architects, New York Chapter. In **1976** he was awarded a degree *honoris causa* in Fine Arts by the Philadelphia College of Art. On the invitation of a former student (the architect Harry Seidler), Albers designed the

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**27** Josef Albers discussing prints for *Formulation: Articulation*, 1972. Photo: John T. Hill

aluminum relief mural *Wrestling* for one of Seidler's buildings, the Mutual Life Center in Sydney, Australia. Josef Albers died in New Haven on March 25, 1976 at the age of 88. He was buried in Orange, Connecticut.

An important part of the Alberses' collection of Pre-Columbian miniatures was bequeathed to the Yale Peabody Museum of Natural History. In April, Inés Amor organized an exhibition as a tribute to the artist at her Galería de Arte Mexicano.

## 1978–1988

In **1978** the Yale University Art Gallery opened a permanent exhibition space devoted to Albers' work following the donation of 64 paintings and 49 prints by Anni Albers and the Josef Albers Foundation. In **1979** Anni donated the rest of the Pre-Columbian miniatures collection to the Yale Peabody Museum of Natural History. The year **1980** saw the installation of the *Stanford Wall*, designed by Albers in 1973 on a commission from Stanford University for its Lomita Mall. This is a two-sided, freestanding sculptural wall of black polished granite on one side and white brick and steel on the other. In **1983** Anni Albers was guest of honor at the inauguration of the Josef Albers Museum Quadrat in Bottrop, which opened housing 91 paintings and 234 prints by the artist, donated by the artist's widow and the Josef Albers Foundation. In **1988**, on the centenary of Albers' birth, the Solomon R. Guggenheim Museum in New York presented the first posthumous retrospective exhibition of his work.

Today, The Josef and Anni Albers Foundation, located in an unspoiled natural setting in Bethany, Connecticut, devotes its activities to the preservation and promotion of the work of Josef Albers, together with that of Anni, and the esthetic, artistic and philosophical principles that defined his life and artistic career.

* The date of 1929 for the Alberses' trip to Spain has recently been proved through research undertaken by Laura Martínez de Guereñu. Up to now, all chronologies of Josef and Anni Albers have incorrectly dated the trip to San Sebastián to 1930, basing themselves on the manuscript annotation "Sommer 1930" written by Albers on one of the photographs of that trip. This is probably an error on the part of the artist, who dated the photograph some years later when he was preparing a photographic montage on card with images of the trip. The Alberses' passport of 1930 has the entry stamps for Italy and Switzerland but no trace of those for Spain or France.

# Catalogue of Works

All works featured here are by Josef Albers unless otherwise indicated

**1**
*Standing Bird, Front View*, ca. 1917
Ink on paper
10 5/16 x 6 3/8 in (26.2 x 16.8 cm)
The Josef and Anni Albers Foundation, Bethany (1976.3.27)
p. 45

**2**
*Dancer*, ca. 1917
Pencil on paper
10 3/16 x 14 7/16 in (25.9 x 36.7 cm)
The Josef and Anni Albers Foundation, Bethany (1976.3.413)
p. 46

**3**
*Study for Green Flute Series*, ca. 1917
Pencil on paper
10 1/4 x 14 7/16 in (26 x 36.7 cm)
The Josef and Anni Albers Foundation, Bethany (1976.3.438)
p. 46

**4**
*Self-Portrait VI*, ca. 1919
Ink on paper
11 1/2 x 7 3/4 in (29.2 x 19.7 cm)
The Josef and Anni Albers Foundation, Bethany (1976.3.133)
p. 47

**5**
*Gitterbild* (Grid Mounted) [Lattice Picture], ca. 1921–1922
Glass assemblage
12 3/4 x 11 3/8 in (32.4 x 28.9 cm)
The Josef and Anni Albers Foundation, Bethany (1976.6.21)
p. 49

**6**
*Fabrik [25/2b]* [Factory (25/2b)], 1925
Sandblasted flashed glass, black paint
11 x 14 in (27.9 x 35.6 cm)
The Josef and Anni Albers Foundation, Bethany (1976.6.4)
p. 50

**7**
*Fabrik A* [Factory A], 1925–1926
Sandblasted flashed glass, black paint
14 x 18 in (35.6 x 45.7 cm)
The Josef and Anni Albers Foundation, Bethany (2006.6.1)
p. 51

**8**
*Fabrik* [Factory], 1926
Gouache and pencil on paper
19 11/16 x 14 7/8 in (50 x 37.7 cm)
Centre Pompidou, Musée National d'Art Moderne / Centre de création industrielle, Paris. Gift of the Société Kandinsky in 2002 (AM 2002–90)
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**9**
*Frontal*, ca. 1927
Sandblasted opaque flashed glass, black paint
13 11/16 x 18 7/8 in (34.8 x 47.9 cm)
The Josef and Anni Albers Foundation, Bethany (1976.6.10)
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**10**
*Study for the Glass Construction Pergola*, 1929
Gouache (in blue and black) over pencil on graph paper
12 11/16 x 18 7/8 in (32.3 x 48 cm); 17 5/16 x 22 5/8 in (44 x 57.5 cm passepartout)
Stiftung Bauhaus Dessau (I 20105 G)
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**11**
*Skyscrapers (B)*, 1929
Glass laminate and paint in artist's metal frame
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Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. Gift of The Joseph H. Hirshhorn Foundation, 1974 (74.6)
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**12**
*Final Study for "Skyscrapers (A),"* 1929
Gouache on paper
Sheet: 14 1/8 x 15 1/4 in (35.8 x 38.7 cm)
Image: 13 1/4 x 13 1/8 in (33.6 x 33.3 cm)
Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. The Joseph H. Hirshhorn Bequest, 1981 (86.64)
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**13**
*Interior A*, 1929
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*Final Study for "Steps,"* 1931
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Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. Gift of Joseph H. Hirshhorn, 1966 (66.36)
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*Angular*, 1935
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*Linear Construction*, 1936
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The Josef and Anni Albers Foundation, Bethany (1976.3.156)
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**18**
*Linear Construction*, 1936
Ink on paper
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**19**
*b and p*, 1937
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*Penetrating (A)*, 1938
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Oil on fiberboard
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**23**
*Study No. 1 for "Proto-Form (B),"* 1938
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*Study for "Proto-Form (B, No. 2),"* 1938
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**25**
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Oil on fiberboard in artist's frame
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*Together*, 1939
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*Study for Equal and Unequal,* 1939
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**28**
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Oil on Masonite
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Oil on Masonite
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Oil on wood composition board
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Oil on Masonite
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Oil on Masonite
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Machine-engraved black plastic laminate mounted on wood
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24 x 24 in (61 x 61 cm)
Centre Pompidou, Musée National d'Art Moderne / Centre de création industrielle, Paris. Gift of Anni Albers and The Josef Albers Foundation, 1978. On deposit since 15/11/1994: Musée des Beaux Arts de Tourcoing (AM 1978–752)
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19 1/2 x 26 in (49.5 x 66 cm)
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Acrylic on fiberboard
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48 x 48 in (121.9 x 121.9 cm)
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*Never Before l*, 1976
Screenprint
19 x 20 in (48.3 x 50.8 cm)
The Josef and Anni Albers Foundation, Bethany (1976.4.231.12)
p. 171

**123**
Salad bowl with wooden servers, 1924–1925
Glass and hand-carved wood
Fork: 9 11/16 x 1 1/4 in (24.6 x 3.2 cm); spoon: 9 7/8 x 1 3/8 in (25 x 3.4 cm); bowl: height: 4 3/16 in (10.6 cm); diameter: 9 in (22.8 cm)
Stiftung Bauhaus Dessau (I 2842/1-3 H/GL)
p. 172

**124**
Bowl, 1924–1925
Glass, wood
Height: 1 5/8 in (4.1 cm); diameter: 7 3/8 in (18.7 cm); width with handle: 9 1/2 in (24.2 cm)
Stiftung Bauhaus Dessau (I 2841 GI)
p. 172

**125**
Tea glass with porcelain saucer, 1926
Tea glass: heat-proof glass, chrome-plated steel ring (stamped "Krupp V2A"), black lacquered ebony handle
Diameter: 3 1/2 in (8.8 cm); height: 2 in (5 cm); overall width: 5 1/2 in (14 cm)
Saucer: white Meissen porcelain (crossed swords trademark on the bottom)
Diameter: 4 in (10 cm); height: 3/16 in (0.5 cm)
Stiftung Bauhaus Dessau (I 12394 GI)
p. 172

**126**
Stacking table (set of four), ca. 1927
Ash veneer, black lacquer and painted glass
15 5/8 x 16 3/8 x 15 3/4 in (39.7 x 41.6 x 40 cm)
18 5/8 x 18 7/8 x 15 3/4 in (47.3 x 47.9 x 40 cm)
21 3/4 x 21 x 15 3/4 in (55.2 x 53.3 x 40 cm)
24 5/8 x 23 5/8 x 15 7/8 in (62.5 x 60 x 40.3 cm)
The Josef and Anni Albers Foundation, Bethany (2000.5.3.a/b/c/d)
p. 173

**127**
Office desk, ca. 1927
Ash and mahogany, black lacquer
30 x 62 x 30 in (76.2 x 157.4 x 76.2 cm)
The Josef and Anni Albers Foundation, Bethany (2000.5.4)
p. 174

**128**
Writing desk, ca. 1927
Ash veneer, black lacquer and painted glass
30 x 35 3/8 x 23 in (76.2 x 89.9 x 58.4 cm)
The Josef and Anni Albers Foundation, Bethany (2012.5.1)
p. 174

**129**
Müller apartment furniture, ti 244, armchair, 1928
Bent ash wood, veneered, flecked horsehair fabric (restored)
27 1/8 x 24 x 27 15/16 in (69 x 61 x 71 cm)
Stiftung Bauhaus Dessau (I 1368 M)
p. 175

**130**
Armchair ti 244, 1928
Bent ash wood, veneered, and feather cushion, green horsehair cover
Height: 57 7/8 in (147 cm); width: 57 1/8 in (145 cm); overall depth: 6 11/16 in (17 cm)
Stiftung Bauhaus Dessau (I 119639 M)
p. 175

**131**
*bauhaus. Zeitschrift für Gestaltung* (Journal of Design), year 2, double issue 2/3, 1928
Letterpress on glossy paper, wire staples
11 3/4 x 8 1/4 in (30 x 21 cm)
Stiftung Bauhaus Dessau (I 1746 L)
p. 212

**132**
*Mittelberg XII 1928*, 1928
Two gelatin silver prints, mounted on paperboard
11 5/8 x 16 1/8 in (29.5 x 41 cm)
Solomon R. Guggenheim Museum, New York. Gift of The Josef and Anni Albers Foundation, 1996 (96.4502.6)
p. 176

**133**
*Bei Haus 2* [At Home 2], 1928–1929
Two gelatin silver prints, mounted on paperboard
16 1/8 x 11 5/8 in (41 x 29.5 cm)
Solomon R. Guggenheim Museum, New York. Gift of The Josef and Anni Albers Foundation, 1996 (96.4502.4)
p. 179

**134**
*Flooded Trees and Pine Forest*, n.d.
Photo collage
11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany (1976.7.42)
p. 180

**135**
*Hotel Stairs Geneva, 1929*, 1929
Photo collage
11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany (1976.7.29)
p. 177

**136**
*Wannsee. Great Lake Road '31*, 1931
Photo collage
11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany (1976.7.46)
p. 181

**137**
*Oskar Schlemmer IV, 29; in the Master Council '28; [Hans] Wittwer, [Ernst] Kallai, Marianne Brandt, Preliminary Course*, 1927
Photo collage
11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany (1976.7.54)
p. 182

**138**
*Kandinsky, Spring 1929, Master on the Terrace at H. M.'s [Hannes Meyer's]; May '30*, 1929
Photo collage
11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany (1976.7.1)
p. 184

**139**
*Klee in the Atelier Dessau XI, 1929*, 1929
Photo collage
11 5/8 x 16 1/8 in (29.5 x 41 cm)
The Josef and Anni Albers Foundation, Bethany (1976.7.2)
p. 183

**140**
*Walter Gropius, Ascona Summer 30*, 1930
Photo collage
16 1/8 x 11 5/8 in (41 x 29.5 cm)
The Josef and Anni Albers Foundation, Bethany (1976.7.63)
p. 185

**141**
*Mies with Ozenfant (Ludwig Mies van der Rohe with Amédée Ozenfant in the Bauhaus Dessau)*, 1931
Vintage photograph, albumen silver print, glossy
4 7/16 x 2 5/8 in (11.3 x 6.6 cm)
Stiftung Bauhaus Dessau (I 7660 F)
p. 184

**142**
*Bauhaus Dessau. In Class with Josef Albers (center) in the Prellerhaus*, 1931
Vintage photograph, albumen silver print, black-and-white, glossy
2 3/16 x 3 1/8 in (5.6 x 8 cm)
Stiftung Bauhaus Dessau (I 36428)
p. 185

**143**
Oskar Schlemmer
*Blaue Gruppe* [Blue Group], 1932
Colored pencil on paper
8 3/4 x 6 1/8 in (22.2 x 15.6 cm)
The Josef and Anni Albers Foundation, Bethany (OA-10)
p. 186

**144**
Wassily Kandinsky
*Untitled*, 1932
Ink on paper
19 5/8 x 16 1/8 in (49.8 x 41 cm)
The Josef and Anni Albers Foundation, Bethany (OA-2)
p. 186

**145**
Paul Klee
*Untitled Drawing*, 1938
Ink on paper
8 3/16 x 5 13/16 in (20.8 x 14.8 cm)
The Josef and Anni Albers Foundation, Bethany (OA-29)
p. 187

**146**
Konrad Püschel
Hip folding. Material exercise from Josef Albers' class, 1926–1927
Drawing paper, scored and folded
9 7/8 x 9 7/8 in (25 x 25 cm)
Stiftung Bauhaus Dessau (I 6853 P)
p. 188

**147**
Konrad Püschel
Sphere. Material exercise from Josef Albers' class, 1926–1927

Paper, cut and interlocked
Diameter: 4 5/16 in (11 cm)
Stiftung Bauhaus Dessau (I 6845 P)
p. 188

**148**
Konrad Püschel
Two spheres. Material exercise from Josef Albers' class, 1926–1927
Paper and cardboard, cut and interlocked
Diameter: 4 3/4 in (12 cm)
Stiftung Bauhaus Dessau (I 6849 P)
p. 189

**149**
Konrad Püschel
Three spheres fitted together. Material exercise from Josef Albers' class, 1926–1927
Paper and cardboard, cut and interlocked
Diameter: 6 5/16 in (16 cm)
Stiftung Bauhaus Dessau (I 6851 P)
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**150**
Walter Tralau
Preliminary course work, W. Tralau paper, 1926
Vintage photograph, albumen silver print, glossy, mounted on cardboard
4 3/16 x 3 in (10.6 x 7.7 cm); 11 1/2 x 8 1/8 in (29.3 x 20.7 cm)
Stiftung Bauhaus Dessau (I 11074 F)
p. 190

**151**
Herbert Wegehaupt
Material study from the preliminary course with Josef Albers, 1926
Vintage photograph, albumen silver print, glossy, mounted on cardboard
3 3/16 x 4 3/8 in (8.1 x 11.1 cm); 11 1/2 x 8 1/8 in (29.3 x 20.7 cm)
Stiftung Bauhaus Dessau (I 11079 F)
p. 190

**152**
Walter Tralau
Paper study by Walter Tralau from the preliminary course with Josef Albers, 1926
Vintage photograph, albumen silver print, matte, mounted on cardboard
4 1/4 x 3 1/8 in (10.9 x 8 cm); 11 1/2 x 8 1/8 in (29.3 x 20.7 cm)
Stiftung Bauhaus Dessau (I 11073 F)
p. 190

**153**
Lotte Stam-Beese
Construction and solidity study by Paul Kempfer from the preliminary course with Josef Albers, 1926–1927
Vintage photograph, albumen silver print, matte
4 1/8 x 3 in (10.5 x 7.6 cm)
Stiftung Bauhaus Dessau (I 36954)
p. 191

**154**
Edmund Collein
Construction exercise (glass) from the preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, glossy
3 5/8 x 3 in (9.2 x 7.6 cm)
Stiftung Bauhaus Dessau (I 9374 F)
p. 191

**155**
Edmund Collein
Construction exercise (glass) from the preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, glossy, mounted on black album card
3 9/16 x 2 3/4 in (9 x 6.9 cm)
Stiftung Bauhaus Dessau (I 36925)
p. 191

**156**
Edmund Collein
Construction exercise from the preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, glossy
4 1/4 x 3 3/8 in (10.8 x 8.5 cm)
Stiftung Bauhaus Dessau (I 36926)
p. 192

**157**
Edmund Collein
Constructive-rhythmic material exercise from the preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, glossy, mounted on black album card
4 x 3 in (10.1 x 7.5 cm)
Stiftung Bauhaus Dessau (I 36927)
p. 192

**158**
August Rauh
Studies from the preliminary course with Josef Albers, 1927–1928
Vintage photograph, albumen silver print, black-and-white, glossy
4 7/16 x 6 1/8 in (11.3 x 15.6 cm)
Stiftung Bauhaus Dessau (I 872 F)
p. 193

**159**
Erich Krause
Material studies (metal) from the preliminary course with Josef Albers, 1928–1929
Reproduction, albumen silver print on Agfa Lupex, matte
4 3/8 x 6 1/8 in (11.1 x 15.6 cm); 5 1/16 x 7 in (12.9 x 17.7 cm)
Stiftung Bauhaus Dessau (I 268 F)
p. 193

**160**
Moses Bahelfer
Paper works from the preliminary course with Josef Albers, 1929
Vintage photograph, albumen silver print, glossy
4 5/8 x 6 7/16 in (11.7 x 16.4 cm)
Stiftung Bauhaus Dessau (I 933 F)
p. 193

**161**
Fred Umminger Jr.
Yale University Art School color study, 1951–1963
Color-aid paper on cardboard
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.567)
p. 194

**162**
Unknown
Yale University Art School color study, 1951–1963
Color-aid paper on cardboard
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.568)
p. 194

**163**
Unknown
Yale University Art School color study, 1951–1963
Color-aid paper on cardboard
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.574)
p. 194

**164**
Livingston
Yale University Art School color study, 1958–1960
Color-aid paper on mat board
14 x 11 in (35.5 x 28 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.584)
p. 195

**165**
Unknown
Yale University Art School color study. Afterimage study, 1958–1960
Color-aid paper on mat board
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.594)
p. 194

**166**
Unknown
Yale University Art School color study, 1951–1963
Color-aid paper on mat board
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.598)
p. 195

**167**
Andrew Bartholomew
Yale University Art School color study, 1956
Color-aid paper on cardboard
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.609)
p. 195

**168**
Susan Draper
Yale University Art School color study, 1956
Color-aid paper on drawing paper
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.611)
p. 195

**169**
Bauer
Yale University Art School color study, 1951–1963
Color-aid paper and drawing paper on mat board
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.615)
p. 195

**170**
J. W. McCullough
Yale University Art School color study: Optical mixture, 1951–1963
Magazine clippings and drawing paper on construction paper
14 x 22 in (35.5 x 56 cm)
The Josef and Anni Albers Foundation, Bethany (1976.26.616)
p. 195

**171**
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Boxed set with 80 color folios and commentary. New Haven and London: Yale University Press
5 7/8 x 17 5/8 x 11 1/8 in (14.9 x 44.8 x 28.3 cm)
The Josef and Anni Albers Foundation, Bethany (IOC)
p. 197

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Erica Witschey



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**III.2. Group shows**

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*Abstract Impressions: Josef Albers, Naum Gabo, Ben Nicholson*. Edited by David Cleaton Roberts. Text by Nicholas Fox Weber [Alan Cristea Gallery, London, July 12–August 10, 2012]. London: Alan Cristea Gallery, 2012.

## IV. Reference works

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# Exhibition Catalogues and other Publications by the Fundación Juan March

The Fundación Juan March has published more than 180 catalogues, most of them now sold out, of the exhibitions it has presented in its Madrid, Cuenca and Palma exhibition spaces. Starting in January 2014, these catalogues are now available on digital support on our webpage *All our Art Catalogues since 1973*, at www.march.es

## 1966

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA [Catalogue-Guide]. Text by Fernando Zóbel. Bilingual ed. (Spanish/English). Published by the Museo de Arte Abstracto Español, Cuenca

## 1969

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA [Catalogue-Guide]. Texts by Gustavo Torner, Gerardo Rueda and Fernando Zóbel. Bilingual ed. (Spanish/English). Published by the Museo de Arte Abstracto Español, Cuenca (1st ed.)

## 1973

❦ ARTE'73. Multilingual ed. (Spanish, English, French, Italian and German)

## 1974

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA [Catalogue-Guide]. Texts by Gustavo Torner, Gerardo Rueda and Fernando Zóbel. Bilingual ed. (Spanish/English). Published by the Museo de Arte Abstracto Español, Cuenca (2nd ed., rev. and exp.)

## 1975

❦ OSKAR KOKOSCHKA. Óleos y acuarelas. Dibujos, grabados, mosaicos. Obra literaria. Text by Heinz Spielmann

❦ EXPOSICIÓN ANTOLÓGICA DE LA CALCOGRAFÍA NACIONAL. Texts by Enrique Lafuente Ferrari and Antonio Gallego

❦ I EXPOSICIÓN DE BECARIOS DE ARTES PLÁSTICAS

## 1976

❦ JEAN DUBUFFET. Text by Jean Dubuffet

❦ ALBERTO GIACOMETTI. Colección de la Fundación Maeght. Texts by Jean Genêt, Jean-Paul Sartre, Jacques Dupin and Alberto Giacometti

❦ II EXPOSICIÓN DE BECARIOS DE ARTES PLÁSTICAS

## 1977

❦ ARTE USA. Text by Harold Rosenberg

❦ ARTE DE NUEVA GUINEA Y PAPÚA. Colección A. Folch y E. Serra. Texts by B. A. L. Cranstone and Christian Kaufmann

❦ PICASSO. Texts by Rafael Alberti, Gerardo Diego, Vicente Aleixandre, Eugenio d'Ors, Juan Antonio Gaya Nuño, Ricardo Gullón, José Camón Aznar, Guillermo de Torre and Enrique Lafuente Ferrari

❦ MARC CHAGALL. 18 pinturas y 40 grabados. Texts by André Malraux and Louis Aragon (in French) Ⓟ

❦ ARTE ESPAÑOL CONTEMPORÁNEO. COLECCIÓN DE LA FUNDACIÓN JUAN MARCH. [This catalogue accompanied the exhibition of the same name that traveled to 67 Spanish venues between 1975 and 1996; at many venues, independent catalogues were published.]

❦ III EXPOSICIÓN DE BECARIOS DE ARTES PLÁSTICAS

## 1978

❦ ARS MEDICA. Text by Carl Zigrosser

❦ FRANCIS BACON. Text by Antonio Bonet Correa

❦ BAUHAUS. Texts by Hans M. Wingler, Will Grohmann, Jürgen Joedicke, Nikolaus Pevsner, Hans Eckstein, Oskar Schlemmer, László Moholy-Nagy, Otto Stelzer and Heinz Winfried Sabais. Published by the Institut für Auslandsbeziehungen, Stuttgart, 1976

❦ KANDINSKY: 1923–1944. Texts by Werner Haftmann, Gaëtan Picon and Wassily Kandinsky

❦ ARTE ESPAÑOL CONTEMPORÁNEO. COLECCIÓN DE LA FUNDACIÓN JUAN MARCH

❦ IV EXPOSICIÓN DE BECARIOS DE ARTES PLÁSTICAS

## 1979

❦ WILLEM DE KOONING. Obras recientes. Text by Diane Waldman

❦ MAESTROS DEL SIGLO XX. NATURALEZA MUERTA. Text by Reinhold Hohl

❦ GEORGES BRAQUE. Óleos, gouaches, relieves, dibujos y grabados. Texts by Jean Paulhan, Jacques Prévert, Christian Zervos, Georges Salles, André Chastel, Pierre Reverdy and Georges Braque

❦ GOYA. CAPRICHOS, DESASTRES, TAUROMAQUIA, DISPARATES. Text by Alfonso E. Pérez-Sánchez (1st ed.)

❦ V EXPOSICIÓN DE BECARIOS DE ARTES PLÁSTICAS

## 1980

❦ JULIO GONZÁLEZ. Esculturas y dibujos. Text by Germain Viatte

❦ ROBERT MOTHERWELL. Text by Barbaralee Diamonstein and Robert Motherwell

❦ HENRI MATISSE. Óleos, dibujos, gouaches, découpées, esculturas y libros. Text by Henri Matisse

❦ VI EXPOSICIÓN DE BECARIOS DE ARTES PLÁSTICAS

## 1981

❦ MINIMAL ART. Text by Phyllis Tuchman

❦ PAUL KLEE. Óleos, acuarelas, dibujos y grabados. Text by Paul Klee

❦ MIRRORS AND WINDOWS. AMERICAN PHOTOGRAPHY SINCE 1960. Text by John Szarkowski. English ed. (Offprint: Spanish translation of text by John Szarkowski). Published by The Museum of Modern Art, New York, 1980

❦ MEDIO SIGLO DE ESCULTURA: 1900–1945. Text by Jean-Louis Prat

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA. FUNDACIÓN JUAN MARCH [Catalogue-Guide]. Texts by Gustavo Torner, Gerardo Rueda and Fernando Zóbel

## 1982

❦ PIET MONDRIAN. Óleos, acuarelas y dibujos. Texts by Herbert Henkels and Piet Mondrian

❦ ROBERT Y SONIA DELAUNAY. Texts by Juan Manuel Bonet, Jacques Damase, Ramón Gómez de la Serna, Isaac del Vando Villar, Vicente Huidobro and Guillermo de Torre

❦ PINTURA ABSTRACTA ESPAÑOLA: 1960–1970. Text by Rafael Santos Torroella

❦ KURT SCHWITTERS. Texts by Werner Schmalenbach, Ernst Schwitters and Kurt Schwitters

❦ VII EXPOSICIÓN DE BECARIOS DE ARTES PLÁSTICAS

## 1983

❦ ROY LICHTENSTEIN: 1970–1980. Text by Jack Cowart. English ed. Published by Hudson Hill Press, New York, 1981

❦ FERNAND LÉGER. Text by Antonio Bonet Correa and Fernand Léger

❦ PIERRE BONNARD. Text by Ángel González García

❦ ALMADA NEGREIROS. Texts by Margarida Acciaiuoli, Antonio Espina, Ramón Gómez de la Serna, José Augusto França, Jorge de Sena, Lima de Freitas and Almada Negreiros. Published by the Ministério da Cultura de Portugal, Lisbon, 1983

❦ ARTE ABSTRACTO ESPAÑOL EN LA COLECCIÓN DE LA FUNDACIÓN JUAN MARCH. Text by Julián Gállego

❦ GRABADO ABSTRACTO ESPAÑOL. COLECCIÓN DE LA FUNDACIÓN JUAN MARCH. Text by Julián Gállego. [This catalogue accompanied the exhibition of the same name that traveled to 44 Spanish venues between 1983 and 1999.]

## 1984

❦ EL ARTE DEL SIGLO XX EN UN MUSEO HOLANDÉS: EINDHOVEN. Texts by Jaap

KEY: ❦ Sold-out publications | Ⓟ Exhibition at the Museu Fundación Juan March, Palma | Ⓒ Exhibition at the Museo de Arte Abstracto Español, Cuenca

Bremer, Jan Debbaut, R. H. Fuchs, Piet de Jonge and Margriet Suren

❦ JOSEPH CORNELL. Text by Fernando Huici

❦ FERNANDO ZÓBEL. Text by Francisco Calvo Serraller. Madrid and C

❦ JULIA MARGARET CAMERON: 1815–1879. Texts by Mike Weaver and Julia Margaret Cameron. English ed. (Offprint: Spanish translation of text by Mike Weaver). Published by John Hansard Gallery & The Herbert Press Ltd., Southampton, 1984

❦ JULIUS BISSIER. Text by Werner Schmalenbach

### 1985

❦ ROBERT RAUSCHENBERG. Text by Lawrence Alloway

❦ VANGUARDIA RUSA: 1910–1930. Museo y Colección Ludwig. Text by Evelyn Weiss

❦ DER DEUTSCHE HOLZSCHNITT IM 20. Text by Gunther Thiem. German ed. (Offprint: Spanish translations of texts). Published by the Institut für Auslandsbeziehungen, Stuttgart, 1984

❦ ESTRUCTURAS REPETITIVAS. Text by Simón Marchán Fiz

### 1986

❦ MAX ERNST. Texts by Werner Spies and Max Ernst

❦ ARTE, PAISAJE Y ARQUITECTURA. El arte referido a la arquitectura en la República Federal de Alemania. Texts by Dieter Honisch and Manfred Sack. German ed. (Offprint: Spanish translation of introductory texts). Published by the Institut für Auslandsbeziehungen, Stuttgart, 1983

❦ ARTE ESPAÑOL EN NUEVA YORK: 1950–1970. Colección Amos Cahan. Text by Juan Manuel Bonet

❦ OBRAS MAESTRAS DEL MUSEO DE WUPPERTAL. De Marées a Picasso. Texts by Sabine Fehlemann and Hans Günter Wachtmann

### 1987

❦ BEN NICHOLSON. Texts by Jeremy Lewison and Ben Nicholson

❦ IRVING PENN. Text by John Szarkowski. English ed. published by The Museum of Modern Art, New York, 1984 (repr. 1986)

❦ MARK ROTHKO. Texts by Michael Compton and Mark Rothko

### 1988

❦ EL PASO DESPUÉS DE EL PASO EN LA COLECCIÓN DE LA FUNDACIÓN JUAN MARCH. Text by Juan Manuel Bonet

❦ ZERO, A EUROPEAN MOVEMENT. The Lenz Schönberg Collection. Texts by Dieter Honisch and Hannah Weitemeier. Bilingual ed. (Spanish/English)

❦ COLECCIÓN LEO CASTELLI. Texts by Calvin Tomkins, Judith Goldman, Gabriele Henkel, Leo Castelli, Jim Palette, Barbara Rose and John Cage

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA. FUNDACIÓN JUAN MARCH [Catalogue-Guide]. Text by Juan Manuel Bonet (1st ed.)

### 1989

❦ RENÉ MAGRITTE. Texts by Camille Goemans, Martine Jacquet, Catherine de Croës, François Daulte, Paul Lebeer and René Magritte

❦ EDWARD HOPPER. Text by Gail Levin

❦ ARTE ESPAÑOL CONTEMPORÁNEO. FONDOS DE LA FUNDACIÓN JUAN MARCH. Text by Miguel Fernández-Cid

### 1990

❦ ODILON REDON. Colección Ian Woodner. Texts by Lawrence Gowing, Odilon Redon and Nuria Rivero

❦ CUBISMO EN PRAGA. Obras de la Galería Nacional. Texts by Jiří Kotalík, Ivan Neumann and Jiří Šetlik

❦ ANDY WARHOL. COCHES. Texts by Werner Spies, Cristoph Becker and Andy Warhol

❦ COL·LECCIÓ MARCH. ART ESPANYOL CONTEMPORANI. PALMA. FUNDACIÓN JUAN MARCH [Catalogue-Guide]. Text by Juan Manuel Bonet. Multilingual ed. (Spanish, Catalan and English)

### 1991

❦ PICASSO. RETRATOS DE JACQUELINE. Texts by Hélène Parmelin, María Teresa Ocaña, Nuria Rivero, Werner Spies and Rosa Vives

❦ VIEIRA DA SILVA. Texts by Fernando Pernes, Julián Gállego, Mª João Fernandes, René Char (in French), António Ramos Rosa (in Portuguese) and Joham de Castro

❦ MONET EN GIVERNY. Colección del Museo Marmottan de París. Texts by Arnaud d'Hauterives, Gustave Geffroy and Claude Monet

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA. FUNDACIÓN JUAN MARCH [Catalogue-Guide]. Text by Juan Manuel Bonet (2nd ed.)

### 1992

❦ RICHARD DIEBENKORN. Text by John Elderfield

❦ ALEXEJ VON JAWLENSKY. Text by Angelica Jawlensky

❦ DAVID HOCKNEY. Text by Marco Livingstone

❦ COL·LECCIÓ MARCH. ART ESPANYOL CONTEMPORANI. PALMA. FUNDACIÓN JUAN MARCH [Catalogue-Guide]. Text by Juan Manuel Bonet (German ed.)

### 1993

❦ MALEVICH. Colección del Museo Estatal Ruso, San Petersburgo. Texts by Evgenija N. Petrova, Elena V. Basner and Kasimir Malevich

❦ PICASSO. EL SOMBRERO DE TRES PICOS. Dibujos para los decorados y el vestuario del ballet de Manuel de Falla. Texts by Vicente García-Márquez, Brigitte Léal and Laurence Berthon

❦ MUSEO BRÜCKE BERLÍN. ARTE EXPRESIONISTA ALEMÁN. Text by Magdalena M. Moeller

### 1994

❦ GOYA GRABADOR. Texts by Alfonso E. Pérez-Sánchez and Julián Gállego

❦ ISAMU NOGUCHI. Texts by Shoji Sadao, Bruce Altshuler and Isamu Noguchi

❦ TESOROS DEL ARTE JAPONÉS. Período Edo: 1615-1868. Colección del Museo Fuji, Tokio. Texts by Tatsuo Takakura, Shin-ichi Miura, Akira Gokita, Seiji Nagata, Yoshiaki Yabe, Hirokazu Arakawa and Yoshihiko Sasama

❦ FERNANDO ZÓBEL. RÍO JÚCAR. Texts by Fernando Zóbel and Rafael Pérez-Madero C

### 1995

❦ KLIMT, KOKOSCHKA, SCHIELE. UN SUEÑO VIENÉS: 1898–1918. Texts by Gerbert Frodl and Stephan Koja

❦ ROUAULT. Texts by Stephan Koja, Jacques Maritain and Marcel Arland

❦ MOTHERWELL. Obra gráfica: 1975–1991. Colección Kenneth Tyler. Text by Robert Motherwell C

### 1996

❦ TOM WESSELMANN. Texts by Marco Livingstone, Jo-Anne Birnie Danzker, Tilman Osterwold and Meinrad Maria Grewenig. Published by Hatje Cantz, Ostfildern, 1996

❦ TOULOUSE-LAUTREC. De Albi y de otras colecciones. Texts by Danièle Devynck and Valeriano Bozal

❦ MILLARES. Pinturas y dibujos sobre papel: 1963–1971. Text by Manuel Millares P C

❦ MUSEU D'ART ESPANYOL CONTEMPORANI. PALMA. FUNDACION JUAN MARCH [Catalogue-Guide]. Texts by Juan Manuel Bonet and Javier Maderuelo. Bilingual eds. (Spanish/Catalan and English/German, 1st ed.)

❦ PICASSO. SUITE VOLLARD. Text by Julián Gállego. Spanish ed., bilingual ed. (Spanish/German) and trilingual ed. (Spanish/German/English). [This catalogue accompanied the exhibition of the same name that, since 1996, has traveled to seven Spanish and foreign venues.]

### 1997

❦ MAX BECKMANN. Texts by Klaus Gallwitz and Max Beckmann

❦ EMIL NOLDE. NATURALEZA Y RELIGIÓN. Text by Manfred Reuther

❦ FRANK STELLA. Obra gráfica: 1982–1996. Colección Tyler Graphics. Texts by Sidney Guberman, Dorine Mignot and Frank Stella P C

❦ EL OBJETO DEL ARTE. Text by Javier Maderuelo P C

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA. FUNDACIÓN JUAN MARCH [Catalogue-Guide]. Texts by Juan Manuel Bonet and Javier Maderuelo. Bilingual ed. (Spanish/English, 1st ed.)

### 1998

❦ AMADEO DE SOUZA-CARDOSO. Texts by Javier Maderuelo, Antonio Cardoso and Joana Cunha Leal

❦ PAUL DELVAUX. Text by Gisèle Ollinger-Zinque

❦ RICHARD LINDNER. Text by Werner Spies

### 1999

❦ MARC CHAGALL. TRADICIONES JUDÍAS. Texts by Sylvie Forestier, Benjamin Harshav, Meret Meyer and Marc Chagall

❦ KURT SCHWITTERS Y EL ESPÍRITU DE LA UTOPÍA. Colección Ernst Schwitters. Texts by Javier Maderuelo, Markus Heinzelmann, Lola and Bengt Schwitters

❦ LOVIS CORINTH. Texts by Thomas Deecke, Sabine Fehlemann, Jürgen H. Meyer and Antje Birthälmer

❦ MIQUEL BARCELÓ. Ceràmiques: 1995–1998. Text by Enrique Juncosa. Bilingual ed. (Spanish/Catalan) P

❦ FERNANDO ZÓBEL. Obra gráfica completa. Text by Rafael Pérez-Madero. Published by Departamento de Cultura, Diputación Provincial de Cuenca, Cuenca, 1999 P C

### 2000

❦ VASARELY. Texts by Werner Spies and Michèle-Catherine Vasarely

❦ EXPRESIONISMO ABSTRACTO. OBRA SOBRE PAPEL. Colección de The Metropolitan Museum of Art, Nueva York. Text by Lisa M. Messinger

SCHMIDT-ROTTLUFF. Colección Brücke-Museum Berlin. Text by Magdalena M. Moeller

❦ NOLDE. VISIONES. Acuarelas. Colección de la Fundación Nolde-Seebüll. Text by Manfred Reuther (P) (C)

❦ LUCIO MUÑOZ. ÍNTIMO. Text by Rodrigo Muñoz Avia (C)

❦ EUSEBIO SEMPERE. PAISAJES. Text by Pablo Ramírez (P) (C)

## 2001

❦ DE CASPAR DAVID FRIEDRICH A PICASSO. Obras maestras sobre papel del Museo Von der Heydt, de Wuppertal. Text by Sabine Fehlemann

❦ ADOLPH GOTTLIEB. Text by Sanford Hirsch

❦ MATISSE. ESPÍRITU Y SENTIDO. Obra sobre papel. Texts by Guillermo Solana, Marie-Thérèse Pulvenis de Séligny and Henri Matisse

❦ RÓDCHENKO. GEOMETRÍAS. Texts by Alexandr Lavrentiev and Alexandr Ródchenko (P) (C)

## 2002

❦ GEORGIA O'KEEFFE. NATURALEZAS ÍNTIMAS. Texts by Lisa M. Messinger and Georgia O'Keeffe

❦ TURNER Y EL MAR. Acuarelas de la Tate. Texts by José Jiménez, Ian Warrell, Nicola Cole, Nicola Moorby and Sarah Taft

❦ MOMPÓ. Obra sobre papel. Texts by Dolores Durán Úcar (C)

❦ RIVERA. REFLEJOS. Texts by Jaime Brihuega, Marisa Rivera, Elena Rivera, Rafael Alberti and Luis Rosales (C)

❦ SAURA. DAMAS. Texts by Francisco Calvo Serraller and Antonio Saura (P) (C)

## 2003

❦ ESPÍRITU DE MODERNIDAD. DE GOYA A GIACOMETTI. Obra sobre papel de la Colección Kornfeld. Text by Werner Spies

❦ KANDINSKY. ORIGEN DE LA ABSTRACCIÓN. Texts by Valeriano Bozal, Marion Ackermann and Wassily Kandinsky

❦ CHILLIDA. ELOGIO DE LA MANO. Text by Javier Maderuelo (P) (C)

❦ GERARDO RUEDA. CONSTRUCCIONES. Text by Barbara Rose (C)

❦ ESTEBAN VICENTE. Collages. Texts by José María Parreño and Elaine de Kooning (C)

❦ LUCIO MUÑOZ. ÍNTIMO. Texts by Rodrigo Muñoz Avia and Lucio Muñoz (P)

MUSEU D'ART ESPANYOL CONTEMPORANI. PALMA.FUNDACION JUAN MARCH [Catalogue-Guide]. Texts by Juan Manuel Bonet and Javier Maderuelo. Bilingual eds. (Catalan/Spanish and English/German, 2nd ed. rev. and exp.)

## 2004

❦ MAESTROS DE LA INVENCIÓN DE LA COLECCIÓN E. DE ROTHSCHILD DEL MUSEO DEL LOUVRE. Texts by Pascal Torres Guardiola, Catherine Loisel, Christel Winling, Geneviève Bresc-Bautier, George A. Wanklyn and Louis Antoine Prat

❦ FIGURAS DE LA FRANCIA MODERNA. De Ingres a Toulouse-Lautrec del Petit Palais de París. Texts by Delfín Rodríguez, Isabelle Collet, Amélie Simier, Maryline Assante di Panzillo and José de los Llanos. Bilingual ed. (Spanish/French)

❦ LIUBOV POPOVA. Text by Anna María Guasch (P) (C)

❦ ESTEBAN VICENTE. GESTO Y COLOR. Text by Guillermo Solana (P)

❦ LUIS GORDILLO. DUPLEX. Texts by Miguel Cereceda and Jaime González de Aledo. Bilingual ed. (Spanish/English) (P) (C)

❦ NEW TECHNOLOGIES, NEW ICONOGRAPHY, NEW PHOTOGRAPHY. Photography of the 80's and 90's in the Collection of the Museo Nacional Centro de Arte Reina Sofía. Texts by Catherine Coleman, Pablo Llorca and María Toledo. Bilingual ed. (Spanish/English) (P) (C)

KANDINSKY. Acuarelas. Städtische Galerie im Lenbachhaus, Munich. Texts by Helmut Friedel and Wassily Kandinsky. Bilingual ed. (Spanish/German) (P) (C)

## 2005

❦ CONTEMPORANEA. Kunstmuseum Wolfsburg. Texts by Gijs van Tuyl, Rudi Fuchs, Holger Broeker, Alberto Ruiz de Samaniego and Susanne Köhler. Bilingual ed. (Spanish/English)

❦ ANTONIO SAURA. DAMAS. Texts by Francisco Calvo Serraller and Antonio Saura. Bilingual ed. (Spanish/English)

❦ CELEBRATION OF ART: A Half Century of the Fundación Juan March. Texts by Juan Manuel Bonet, Juan Pablo Fusi, Antonio Muñoz Molina, Juan Navarro Baldeweg and Javier Fuentes. Spanish and English eds.

❦ BECKMANN. Von der Heydt-Museum, Wuppertal. Text by Sabine Fehlemann. Bilingual ed. (Spanish/German) (P) (C)

❦ EGON SCHIELE: IN BODY AND SOUL. Text by Miguel Sáenz. Bilingual ed. (Spanish/English) (P) (C)

❦ LICHTENSTEIN: IN PROCESS. Texts by Juan Antonio Ramírez and Clare Bell. Bilingual ed. (Spanish/English) (P) (C)

❦ FACES AND MASKS: Photographs from the Ordóñez-Falcón Collection. Text by Francisco Caja. Bilingual ed. (Spanish/English) (P) (C)

❦ MUSEO DE ARTE ABSTRACTO ESPAÑOL. CUENCA. FUNDACIÓN JUAN MARCH [Catalogue-Guide]. Texts by Juan Manuel Bonet and Javier Maderuelo. Bilingual ed. (Spanish/English, 2nd ed.)

## 2006

❦ OTTO DIX. Text by Ulrike Lorenz. Bilingual ed. (Spanish/English)

❦ CREATIVE DESTRUCTION: Gustav Klimt, the Beethoven Frieze and the Controversy about the Freedom of Art. Texts by Stephan Koja, Carl E. Schorske, Alice Strobl, Franz A. J. Szabo, Manfred Koller, Verena Perhelfter and Rosa Sala Rose, Hermann Bahr, Ludwig Hevesi and Berta Zuckerkandl. Spanish, English and German eds. Published by Prestel, Munich/Fundación Juan March, Madrid, 2006

❦ Supplementary publication: Hermann Bahr. CONTRA KLIMT (1903). Additional texts by Christian Huemer, Verena Perlhefter, Rosa Sala Rose and Dietrun Otten. Spanish semi-facsimile ed., translation by Alejandro Martín Navarro

LA CIUDAD ABSTRACTA: 1966. El nacimiento del Museo de Arte Abstracto Español. Texts by Santos Juliá, María Bolaños, Ángeles Villalba, Juan Manuel Bonet, Gustavo Torner, Antonio Lorenzo, Rafael Pérez Madero, Pedro Miguel Ibáñez and Alfonso de la Torre

GARY HILL: IMAGES OF LIGHT. Works from the Collection of the Kunstmuseum Wolfsburg. Text by Holger Broeker. Bilingual ed. (Spanish/English) (P) (C)

GOYA. CAPRICHOS, DESASTRES, TAUROMAQUIA, DISPARATES. Texts by Alfonso E. Pérez-Sánchez (11th ed., 1st ed. 1979). [This catalogue accompanied the exhibition of the same name that, since 1979, has traveled to 173 Spanish and foreign venues. The catalogue has been translated into more than seven languages.]

## 2007

ROY LICHTENSTEIN: BEGINNING TO END. Texts by Jack Cowart, Juan Antonio Ramírez, Ruth Fine, Cassandra Lozano, James de Pasquale, Avis Berman and Clare Bell. Spanish, French and English eds.

Supplementary publication: Roy Fox Lichtenstein. PAINTINGS, DRAWINGS AND PASTELS, A THESIS. Original text by Roy Fox Lichtenstein (1949). Additional texts by Jack Cowart and Clare Bell. Bilingual ed. (English [facsimile]/Spanish), translation by Paloma Farré

THE ABSTRACTION OF LANDSCAPE: From Northern Romanticism to Abstract Expressionism. Texts by Werner Hofmann, Hein-Th. Schulze Altcappenberg, Barbara Dayer Gallati, Robert Rosenblum, Miguel López-Remiro, Mark Rothko, Cordula Meier, Dietmar Elger, Bernhard Teuber, Olaf Mörke and Víctor Andrés Ferretti. Spanish and English eds.

Supplementary publication: Sean Scully. BODIES OF LIGHT (1998). Bilingual ed. (Spanish/English)

❦ EQUIPO CRÓNICA. CRÓNICAS REALES. Texts by Michèle Dalmace, Fernando Marías and Tomás Llorens. Bilingual ed. (Spanish/English) (P) (C)

BEFORE AND AFTER MINIMALISM: A Century of Abstract Tendencies in the Daimler Chrysler Collection. Virtual guide: www.march.es/arte/palma/anteriores/CatalogoMinimal/index.asp. Spanish, Catalan, English and German eds. (P)

## 2008

MAXImin: Maximum Minimization in Contemporary Art. Texts by Renate Wiehager, John M. Armleder, Ilya Bolotowsky, Daniel Buren, Hanne Darboven, Adolf Hölzel, Norbert Kricke, Heinz Mack and Friederich Vordemberge-Gildewart. Spanish and English eds.

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❦ Supplementary publication: Blaise Cendrars. HOJAS DE RUTA (1924). Spanish semi-facsimile ed., translation and notes by José Antonio Millán Alba

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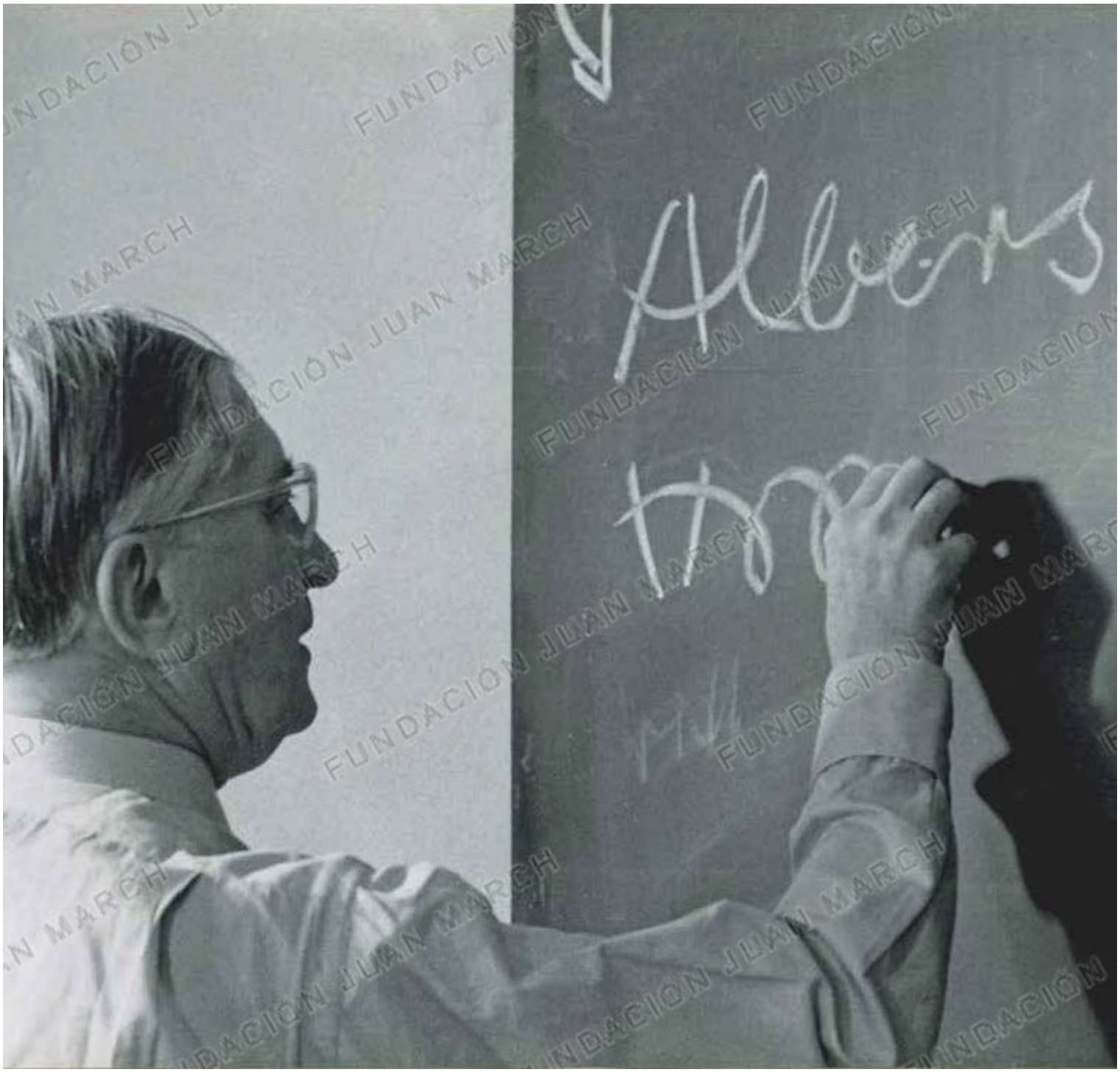


Josef Albers teaching at the Hochschule für Gestaltung, Ulm (detail), 1953. Photo: Hans G. Conrad


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minimal means, maximum effect
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2014