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Rudolf Arnheim

Introduction / Einführung:
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dOCUMENTA (13)

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Notes on Perceptual Thinking and Its Possibilities Today

Recent writings about art have tended to focus on the intention of artists and the effect their artworks have on viewers, as well as the social consequences of these effects. Often, these writings do not speak about the artworks themselves, but about curatorial positions in art today, constituting a meta-artistic discourse. A question, then, might be how to reconnect with the visual, structural, and phenomenological analyses of the twentieth century without sacrificing the political and social dimensions of recent art theory.

After more than a decade of these discourses, mainly dedicated to curatorial practices or to broader cultural studies and postcolonial theory, it is pleasurable to re-read, for example, Rudolf Arnheim (1904–2007) and the gestalt theories of perceptual psychologists. According to these gestalt psychologists (the German word *Gestalt* indicates a "whole" impression), perception is not just retinal vision, and a "visual pattern" is not simply the sum of retinal registrations (the physical process of light refracting from objects in a space, captured by the ocular lenses that project these images onto the retina; from there, the images are transmitted to the brain). Perceptual psychology is interested in the mental experience of vision: you think while seeing, you see only while thinking, thought and perception are not two distinct moments, and vision-thought is based on the apprehension of a hidden field of energy forces. For the gestalt, a line or a shape mobilizes space and perception, with all of its psychological and emotional expression.

While this psychology was not focused on artistic practice but on how perception works in general, it was Arnheim's original viewpoint that connected the two fields—art and perceptual psychology. Born in Berlin in 1904, he studied with Wolfgang Koehler and Kurt Lewin, and his thesis supervisor was Max Wertheimer. He edited the magazine *Die Weltbühne* and published on film as an art form as early as 1932. He fled Nazi Germany to Italy, then to England, and finally settled in the U.S., where he initially taught at the New School for Social Research and at Columbia University. From 1943 onward, he taught psychology of art at Sarah Lawrence College, and in 1954, he published the first edition of *Art and Visual Perception: A Psychology of the Creative Eye*. From 1968, he taught at Harvard, and at the age of 102, he died of pneumonia.

Arnheim understood art as a special kind of meta-perception. Of course, not all of his conclusions can be shared today. Indeed, he supported a conventional, essentialist perspective espoused by the conservative circles of art at the time: according to him, humans respond to a sense of equilibrium, reached either through simple strategies such as symmetry and centrality or through contrapuntal balances of opposite masses and forms, as well as positions and colors that are in dynamic but balanced equilibrium. He found that when this overall balance was not achieved, an artwork remained in a state of ambiguity and un-definition: "Ambiguity confuses the artistic statement because it leaves the observer hovering between two or more assertions that do not add up to a whole."[1] This partial view is based on a preconception that has formed the basis of much commercial advertising and design, and it seems obvious today, in a fractured world characterized by the dominance of the media and of simple, balanced communications that foreclose forms of life and emancipation, that the validity of much artistic practice lies precisely in its ambiguity and non-closure of meanings.

Aside from this, however, Arnheim's theories are today extremely refreshing. He went against the excess of art criticism ("Art may seem to be in danger of being drowned by talk. Rarely are we presented with a new specimen of what we are willing to accept as genuine art"), adding, "Our experiences and ideas tend to be common but not deep, or deep but not common. We have neglected the gift of comprehending things through our senses. Concept is divorced from percept, and thought moves among abstractions."[2] These words might well be used in our contemporary era of excess theory, information, and immateriality. One does not perceive separately all the characteristics of a scene: forms, shapes, positions, colors. Rather, one immediately perceives the whole, and this whole is both sensual and emotional—it is intuitive. This does not mean that reasoning and thinking destroy the experience of art. For Arnheim, one can break down the impression and meaning of a "whole" into its components and analyze why one circle in a square seems static and centered,

1 | Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye; The New Version* (Berkeley: University of California Press, 1974 [orig. 1954]), p. 40.

2 | Ibid., p. 1.

while another circle in another square, positioned slightly to the right and slightly higher, suggests a tension, a pulling away from or closer to the center.

For Arnheim, viewers in the past did not look at the hidden structures of artworks and only focused on the level of their representational content. He argued instead for a gaze that would acknowledge the overall tonality of each artwork, the first impression it makes on us, the dynamic of its shadows, etc. For him, visual art was always about dynamic interaction and visual "weight." Some lines or positions or colors carry more weight than others and have more importance in the image. For example, red carries more visual weight than blue. A shape that is isolated in a painting carries more weight than one that is near others, while the right part of an image carries more weight than the left, etc.

Arnheim denied the validity of certain questions, such as asking oneself whether a sad painting is sad because the artist felt sad when he painted it or because the viewer is sad when he views it. He denied that we learn to associate certain images of objects with sadness due to the repetition of associations between life events and visual events. Instead, he identified sadness in certain perceptual patterns, and thus visual expressiveness resided for him in the objects themselves, rather than in our projections of feelings onto them:

> If one thinks of expression as something reserved for human behavior, one can account for the expression perceived in nature only as the result of the "pathetic fallacy" . . . say, the sadness of weeping willows as a figment of empathy, anthropomorphism, primitive animism. However, if expression is an inherent characteristic of perceptual patterns, its manifestations in the human figure are but a special case of a more general phenomenon. The comparison of an object's expression with a human state of mind is a secondary process. The willow is not "sad" because it looks like a sad person. Rather, because the shape, direction, and flexibility of the branches convey passive hanging, a comparison with the structurally similar state of mind imposes itself. . . . Actually it would be instructive and appropriate to do the opposite, and describe human behavior and expression by the more general properties pertaining to nature as a whole.[3]

All artworks, whether mimetic or abstract, express and *have* expression. Arnheim suggests that these patterns are universal, and even if art always changes, some elements will always be the same, yet always different.

Visual analysis of this sort might seem to contrast with a sense of what it means to be in the world today, what it means to be committed and to have agency. But it does not. The problems of today are primarily those of the acute and growing difference between the wealthy and the poor in the world; the subjugation of economy and society to financial systems, and the problems and consequences of a conservative notion of "patrimony" (that cultural heritage is specifically mine and cannot be shared or merged in any way with others).[4] The technology that allows for this critical situation is the digital, and the temporal qualities that characterize it are speed, simultaneity, and short attention spans. A worldly alliance with materials, objects, other animals, and their perceptions, as proposed by Arnheim, suggests forms of de-symbolization and disowning knowledge and notions of property, as well as providing the possibility of a slower form of time (the time of materials). When you have more time, you can focus more, and when you focus, for example, on a single artwork for a long time, you concentrate and you meditate like a calligrapher, less dispersed in the global flow of data. And when an artwork is looked at closely, it becomes, as in meditation, an ever more abstract exercise, an imagining while thinking, until the phenomenology of that experience allows the mind to merge with matter and slowly, possibly, to see the world not from the point of view of the discerning subject, the detached subject, but from within objects and outward: I am the ball, the ball is me. We are a ball. I am an artwork. How strange my makers are.

The following reproductions include a page from a 1956 reprint of the 1954 first edition of Rudolf Arnheim's book *Art and Visual Perception: A Psychology of the Creative Eye*, with handwritten commentaries by the art critic J. P. Hodin, who reviewed the book, as well as excerpts from the 1974 expanded and revised edition with my own annotations. Also reproduced is the cover page of a publication containing an iconographic and historical analysis of the figure of the heart, which Arnheim dedicated and sent to Hodin as a thank-you note for the review.

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3 | Ibid., p. 452. For comparison, here follows the corresponding passage in the original edition of the book: "The fact that non-human objects have genuine physiognomic properties has been concealed by the popular assumption that they are merely dressed up with human expression by an illusory 'pathetic fallacy' by empathy, anthropomorphism, primitive animism. But if expression is an inherent characteristic of perceptual patterns, its manifestations in the human figure are but a special case of a more general phenomenon. The comparison of an object's expression with a human state of mind is a secondary process. A weeping willow does not look sad because it looks like a sad person. It is more adequate to say that since the shape, direction, and flexibility of willow branches convey the expression of passive hanging, a comparison with the structurally similar state of mind and body that we call sadness imposes itself secondarily. . . . To define visual expression as a reflection of human feelings would seem to be misleading on two counts: first, because it makes us ignore the fact that has its origin in the perceived pattern and in the reaction of the brain field vision to this pattern; second, because such a description unduly limits the range of what is being expressed. We found as the basis of expression a configuration of forces. Such a configuration interests us because it is significant not only for the object in whose image it appears, but for the physical and mental world in general." Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye* (Berkeley: University of California Press, 1956 [orig. 1954]), p. 368.

4 | Susan Buck-Morss in conversation with the author in January 2012, and lecture "The History of Humanity Demands a Communist Mode of Reception," New School for Social Research, New York, February 8, 2012.

Carolyn Christov-Bakargiev

Notizen zum perzeptuellen Denken und seinen heutigen Möglichkeiten

Aktuelle Schriften zur bildenden Kunst haben sich oft auf die Absichten der Künstler und die Wirkung ihrer Arbeiten auf die Betrachter konzentriert, ebenso wie auf die gesellschaftlichen Folgen dieser Wirkungen. Diese Texte behandeln häufig nicht die Kunstwerke selbst, sondern kuratorische Positionen in der heutigen Kunst, und bilden einen metakünstlerischen Diskurs. So ließe sich die Frage stellen, wie man erneut an die visuellen, strukturellen und phänomenologischen Analysen der Kunst des 20. Jahrhunderts anknüpfen könnte, ohne dabei die politischen und gesellschaftlichen Dimensionen der aktuellen Kunsttheorie preiszugeben.

Nach mehr als einem Jahrzehnt, in dem sich diese Diskurse vorwiegend mit kuratorischen Praktiken oder Kulturwissenschaften und postkolonialer Theorie im weiteren Sinne beschäftigt haben, ist es ein Vergnügen, beispielsweise wieder einmal Rudolf Arnheim (1904–2007) und die Gestalttheorien der Wahrnehmungspsychologen zu lesen. Für Gestaltpsychologen (wobei der Begriff *Gestalt* hier eine erlebte Ganzheit bezeichnet) beruht die Wahrnehmung nicht nur auf dem retinalen Sehen, und ein »visuelles Muster« ist mehr als die Summe von Impulsen auf der Netzhaut (der physikalische Vorgang, dass Licht von Gegenständen im Raum gebrochen und von der Linse des Auges gebündelt wird, die diese Bilder auf die Retina projiziert, von wo aus sie an das Gehirn übermittelt werden). Die Wahrnehmungspsychologie interessiert sich für die mentale Seherfahrung: Man denkt, während man sieht, und man sieht nur, während man denkt; Denken und Wahrnehmen sind nicht zwei getrennte Momente, und Sehen/Denken beruht auf dem Sinn für ein verborgenes Feld von Kraftlinien. Für die *Gestalt* mobilisiert eine Linie oder eine Form den Raum und die Wahrnehmung mit ihrem ganzen psychologischen und emotionalen Ausdruck.

Während sich diese Richtung der Psychologie nicht mit künstlerischen Praktiken, sondern mit dem subjektiven Anteil der Wahrnehmung im Allgemeinen beschäftigte, bestand Arnheims originelle Position darin, diese beiden Felder – Kunst und Wahrnehmungspsychologie – miteinander zu verbinden. Er wurde 1904 in Berlin geboren und studierte bei Wolfgang Köhler und Kurt Lewin; sein Doktorvater war Max Wertheimer. Er war Redakteur der Zeitschrift *Die Weltbühne* und schrieb bereits 1932 über den Film als Kunst. Er floh aus dem nationalsozialistischen Deutschland zuerst nach Italien, dann nach England, und ließ sich bald darauf in den USA nieder, wo er anfangs an der New School for Social Research und an der Columbia University unterrichtete. Ab 1943 lehrte er Kunstpsychologie am Sarah Lawrence College und veröffentlichte 1954 die erste Ausgabe von *Art and Visual Perception: A Psychology of the Creative Eye*. Ab 1968 lehrte er in Harvard und starb im Alter von 102 Jahren an den Folgen einer Lungenentzündung.

Arnheim verstand Kunst als eine besondere Form der Metawahrnehmung. Selbstverständlich kann man heute nicht all seine Schlussfolgerungen teilen. Tatsächlich förderte er eine konventionelle, essentialistische Perspektive, die von den konservativen künstlerischen Kreisen seiner Zeit unterstützt wurde: Aus seiner Sicht reagieren Menschen auf einen Gleichgewichtszustand, der entweder durch einfache Strategien wie Symmetrie oder Zentrierung erreicht wird, oder durch eine kontrapunktische Balance entgegengesetzter Massen und Formen sowie Positionen und Farben, die sich in einem dynamischen, aber ausbalancierten Gleichgewicht befinden. Wenn dieses umfassende Gleichgewicht nicht erreicht wurde, blieb das Kunstwerk seiner Auffassung nach mehrdeutig und undefiniert: »Mehrdeutigkeit verwirrt die künstlerische Aussage, da sie den Betrachter zwischen zwei oder mehreren Aussagen schwanken läßt, die sich nicht zu einem Ganzen zusammenfügen.«[1] Diese partielle Sicht beruht auf präzisen Vorstellungen, die eine Grundlage für weite Bereiche von Werbung und Design bildeten; und es ist offenkundig, dass die Aussagekraft vieler künstlerischer Praktiken in der fragmentierten Welt von heute, in der die Medien und eine simple, ausbalancierte Kommunikation bestimmte Formen von Leben und Emanzipation verhindern, eben gerade in ihrer Mehrdeutigkeit und Bedeutungsoffenheit liegt.

Davon abgesehen, wirken Arnheims Theorien derzeit jedoch außerordentlich erfrischend. Er wandte sich gegen ein Übermaß

1 | Rudolf Arnheim, *Kunst und Sehen. Eine Psychologie des schöpferischen Auges*, Neufassung, ins Deutsche übertragen von Hans Hermann, Berlin und New York: Walter de Gruyter 1978, S. 43.

an Kunstkritik (»Die Kunst scheint in Gefahr zu sein, totgeredet zu werden. Nur selten stoßen wir auf etwas Neues, das wir bereitwillig als echte Kunst ansehen«), und ergänzte: »Unsere Erfahrungen und Vorstellungen neigen dazu, allgemein, aber nicht tief zu sein, oder sie sind tief, aber nicht allgemein. Wir haben die Gabe vernachlässigt, Dinge mit unseren Sinnen zu erfassen. Die Begriffe haben sich von den Wahrnehmungsbildern gelöst, und das Denken ergeht sich in Abstraktionen.«[2] Diese Worte passen auch in unsere Zeit mit ihrem Überfluss an Theorien, Informationen und Immaterialität. Man nimmt die verschiedenen Merkmale einer Szene – Formen, Gestalten, Positionen, Farben – nicht getrennt voneinander wahr. Vielmehr erfasst man unmittelbar das Ganze, und dieses Ganze ist sowohl sinnlich als auch emotional – es ist intuitiv. Das heißt nicht, dass Logik und Denken die Kunsterfahrung zerstören. Für Arnheim lassen sich der Eindruck und die Bedeutung eines »Ganzen« in dessen Bestandteile zerlegen, und man kann analysieren, warum ein Kreis in einem Quadrat statisch und zentriert wirkt, während ein anderer Kreis in einem anderen Quadrat, der etwas weiter rechts und weiter oben positioniert ist, eine Spannung und eine Bewegung in Richtung Zentrum oder in die Gegenrichtung suggeriert.

Aus Arnheims Sicht richteten frühere Betrachter ihren Blick nicht auf die verborgenen Strukturen von Kunstwerken, sondern konzentrierten sich ausschließlich auf die Ebene des dargestellten Inhalts. Arnheim hingegen plädierte für eine Betrachtungsweise, die die gesamte Tonalität jedes Kunstwerks, den ersten Eindruck, den es auslöst, die Dynamik seiner Schatten und andere Eigenschaften würdigt. Für ihn ging es bei der bildenden Kunst stets um dynamische Interaktion und visuelles »Gewicht«. Manche Linien oder Positionen oder Farben haben mehr Gewicht und dadurch mehr Bedeutung für das Bild als andere. So hat Rot beispielsweise mehr visuelles Gewicht als Blau. Eine Form, die in einem Gemälde isoliert ist, hat mehr Gewicht als eine, die sich in der Nähe anderer Formen befindet; die rechte Seite eines Bildes hat mehr Gewicht als die linke, und so fort.

Arnheim negierte die Gültigkeit bestimmter Fragen, etwa, ob ein trauriges Gemälde traurig ist, weil der Künstler traurig war, als er es malte, oder weil der Betrachter traurig war, als er es betrachtete. Er bestritt, dass wir durch die wiederholte Verknüpfung von Lebensereignissen mit visuellen Ereignissen lernen, bestimmte Bilder von Dingen mit Trauer zu assoziieren. Stattdessen identifizierte er Trauer in bestimmten Wahrnehmungsmustern, und so lag für ihn die visuelle Ausdruckskraft in den Objekten selbst und nicht in den Gefühlen, die wir auf sie projizieren:

2 | Ebd., S. 1.

> Wenn man den Ausdruck nur für das menschliche Verhalten gelten läßt, kann man sich den in der Natur wahrgenommenen Ausdruck nur als das Ergebnis der »Vermenschlichung von Natur« vorstellen – ein Gedanke, der […] beispielsweise die Traurigkeit von Trauerweiden als Produkt einer Einfühlung, eines Anthropomorphismus, eines primitiven Animismus beschreiben soll. Ist aber der Ausdruck ein eigenständiges Kennzeichen von Wahrnehmungsmustern, dann sind seine Symptome in der menschlichen Gestalt nur ein Sonderfall einer allgemeineren Erscheinung. Der Vergleich des Ausdrucks eines Objekts mit dem Seelenzustand eines Menschen ist ein sekundärer Prozeß. Eine Trauerweide ist nicht »traurig«, weil sie wie ein trauriger Mensch aussieht. Es ist vielmehr so, daß die Form, Richtung und Biegsamkeit der Zweige ein passives Hängen vermitteln und daß sich deshalb ein Vergleich mit dem strukturell ähnlichen seelischen und körperlichen Zustand der Traurigkeit erst sekundär aufdrängt. […] Eigentlich wäre das Gegenteil lehrreich und angemessen, nämlich das menschliche Verhalten und den menschlichen Ausdruck mit den allgemeineren Eigenschaften zu beschreiben, die die Natur als Ganzes betreffen.[3]

Alle Kunstwerke, ob mimetisch oder abstrakt, drücken etwas aus und haben Ausdruck. Arnheim behauptet, dass diese Muster universell sind, und auch wenn sich die Kunst ständig verändert, werden manche Elemente immer gleich und doch immer wieder anders sein.

Man könnte vermuten, dass diese Art der visuellen Analyse in Widerspruch zu dem Gefühl steht, was es heute bedeutet, auf der Welt zu sein, sich zu engagieren und handlungsfähig zu sein. Doch das ist nicht der Fall. Die heutigen Probleme bestehen in erster Linie in einer ausgeprägten und weiter wachsenden Kluft zwischen den Armen und Reichen in der Welt, in der Unterwerfung von Wirtschaft und Gesellschaft unter die Finanzsysteme und in den Schwierigkeiten und Konsequenzen einer konservativen Auffassung von »Erbe« (dass ein kulturelles Erbe speziell *meines* ist und in keiner Weise mit anderen geteilt oder zusammengeführt werden kann).[4] Es ist die digitale Technik, die diese kritische Situation möglich macht, und ihre zeitlichen Merkmale sind Schnelligkeit, Gleichzeitigkeit und kurze Aufmerksamkeitsspannen. Ein weltliches Bündnis mit Materialien, Objekten, anderen Tieren und ihren Wahrnehmungen, wie Arnheim es vorschlägt, legt Formen der Desymbolisierung und der Ablehnung von Wissen und Eigentumsvorstellungen nahe, ebenso wie es die Möglichkeit einer langsameren Form von Zeit (die Zeit von Materialien) eröffnet. Wenn man mehr Zeit hat, kann man sich besser konzentrieren, und wenn man sich beispielsweise lange auf ein einzelnes Kunstwerk konzentriert, fokussiert man seine Aufmerksamkeit und meditiert wie ein Kalligraf, weniger abgelenkt von den globalen Datenströmen. Und wenn man ein Kunstwerk eingehend betrachtet, wird es, wie in einer Meditation, zu einer immer abstrakteren Übung, in der sich Vorstellen und Denken miteinander verbinden, bis die Phänomenologie dieser Erfahrung es dem Geist ermöglicht, mit der Materie zu verschmelzen und die Welt vielleicht allmählich nicht mehr vom Standpunkt des wahrnehmenden

3 | Ebd., S. 456.

4 | Susan Buck-Morss im Gespräch mit der Autorin im Januar 2012; siehe auch den Vortrag »The History of Humanity Demands a Communist Mode of Reception« vom 8. Februar 2012 an der New School of Social Research, New York.

Subjekts, des unbeteiligten Subjekts zu betrachten, sondern aus dem Inneren der Objekte und ausgehend von ihrem Standpunkt: Ich bin der Ball, der Ball ist ich. Wir sind ein Ball. Ich bin ein Kunstwerk. Wie seltsam meine Macher sind.

Die folgenden Reproduktionen enthalten eine Seite aus dem Nachdruck der 1954 erschienenen Erstausgabe von Rudolf Arnheims Buch *Art and Visual Perception: A Psychology of the Creative Eye* aus dem Jahr 1956, mit handschriftlichen Kommentaren des Kunstkritikers J. P. Hodin, der den Band rezensierte, sowie Auszüge aus der erweiterten und überarbeiteten Ausgabe von 1974 mit meinen eigenen Anmerkungen. Zudem wird die Titelseite einer Publikation mit einer ikonografischen und historischen Analyse des Herzsymbols reproduziert, die Arnheim Hodin widmete und ihm als Dank für seine Buchbesprechung zukommen ließ.

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Cover of the publication *CUAS*, no. 3 (New York: Cooper Union Art School, c. 1957), which Rudolf Arnheim dedicated and sent to J. P. Hodin as a thank-you note for the review of his book *Art and Visual Perception: A Psychology of the Creative Eye*. / Titelseite der Publikation *CUAS*, Nr. 3, New York: Cooper Union Art School, ca. 1957, die Rudolf Arnheim mit einer Widmung an J. P. Hodin zum Dank für die Rezension seines Buches *Art and Visual Perception: A Psychology of the Creative Eye* übersandte.

Schaefer-Simmern, inspired by the theories of Gustaf Britsch, had given a great deal of practical thought to the artistic process. He had confirmed the assertion that the mind, in its struggle for an orderly conception of reality, proceeds in a lawful and logical development from the perceptually simplest patterns to increasing complexity. There was evidence, then, that the perceptual principles revealed in the gestalt experiments were also manifest genetically. Chapter IV of the present book offers a psychologist's comments on the basic aspects of the theory, which will be documented more fully in a forthcoming book by Mr. Schaefer-Simmern. In *The Unfolding of Artistic Activity*, Schaefer-Simmern has already convincingly illustrated his belief that the capacity to deal with life artistically is not the privilege of a few gifted experts but belongs to the equipment of every sane person whom nature has favored with a pair of eyes. To the psychologist this means that the study of art is an indispensable part of the study of man.

At the risk of giving my fellow scientists good reasons for displeasure I am applying the principles in which I believe with a somewhat reckless one-sidedness, partly because the cautious installation of dialectic fire escapes, side entrances, emergency closets, and waiting rooms would have made the structure impractically large and orientation difficult, partly because in certain cases it is useful to state a point of view with crude simplicity and leave the refinements to the ensuing play of thrust and counterthrust. I must also apologize to the art historians for using their material less competently than might have been desirable. At the present time it probably would be beyond the power of any one person to give a fully satisfactory survey of the relations between the theory of the visual arts and the pertinent work in psychology. If we try to match two things which, although belonging together, have not been made for each other, many adjustments are necessary and many gaps have to be closed provisionally. I had to speculate where I could not prove and to use my own eyes where I could not rely on those of others. I have taken pains to indicate problems that are waiting for systematic research. But after all is said and done, I feel like exclaiming with Herman Melville: "This whole book is but a draught—nay, but the draught of a draught. Oh, Time, Strength, Cash, and Patience!"

The book deals with what can be seen by everybody. It deals with what can be read only to the extent to which it has helped me and my students to see better. But there is also the hangover from the reading of many things that do not serve the good purpose. One of the reasons for writing this book is that I believe many people to be tired of the dazzling obscurity of arty talk, the juggling with catchwords and dehydrated aesthetic concepts, the pseudo-scientific windowdressing, the impertinent hunting for clinical symptoms, the elaborate measurement of trifles, and the charming epigrams. Art is the most concrete thing in the world, and there is no justification for confusing the minds of people who want to know more about it.

Even concrete things are often intricate. I have tried to discuss them as simply as I could. This does not mean that I have clung to measurably short words and sentences, because when the form is simpler than the content

Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye* (Berkeley: University of California Press, 1956 [orig. 1954]), p. / S. ix, annotated by critic / mit Anmerkungen des Kunstkritikers J. P. Hodin

Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye; The New Version* (Berkeley: University of California Press, 1974), annotated by / mit Anmerkungen von Carolyn Christov-Bakargiev

INTRODUCTION

Art may seem to be in danger of being drowned by talk. Rarely are we presented with a new specimen of what we are willing to accept as genuine art, yet we are overwhelmed by a flood of books, articles, dissertations, speeches, lectures, guides—all ready to tell us what is art and what is not, what was done by whom and when and why and because of whom and what. We are haunted by the vision of a small, delicate body dissected by crowds of eager lay surgeons and lay analysts. And we feel tempted to assume that art is unsure in our time because we think and talk too much about it.

Probably such a diagnosis is superficial. True, the state of affairs seems unsatisfactory to almost everyone; but if we seek its causes with some care, we find we are heirs to a cultural situation that is both unsuited to the creation of art and likely to encourage the wrong kind of thinking about it. Our experiences and ideas tend to be common but not deep, or deep but not common. We have neglected the gift of comprehending things through our senses. Concept is divorced from percept, and thought moves among abstractions. Our eyes have been reduced to instruments with which to identify and to measure; hence we suffer a paucity of ideas that can be expressed in images and an incapacity to discover meaning in what we see. Naturally we feel lost in the presence of objects that make sense only to undiluted vision, and we seek refuge in the more familiar medium of words.

The mere exposure to masterworks does not suffice. Too many persons visit museums and collect picture books without gaining access to art. The inborn capacity to understand through the eyes has been put to sleep and must be reawakened. This is best accomplished by handling pencils, brushes, chisels, and perhaps cameras. But here again, bad habits and misconceptions will block the path of the unassisted. Often he is helped most effectively by visual evidence: by being shown weak spots or presented with good examples. But

such assistance rarely takes the form of silent pantomime. Human beings have excellent reasons for talking to one another. I believe this is true also in the field of the arts.

Here, however, we must heed the warnings of artists and art teachers against the use of speech in the studio and art room, even though they themselves may use many words to express their warning. They may assert, first of all, that visual things cannot be conveyed by verbal language. There is a core of truth in this. The particular qualities of the experience created by a Rembrandt painting are only partly reducible to description and explanation. This limitation, however, applies not only to art, but to any object of experience. No description or explanation—whether a secretary's verbal portrait of her employer or a physician's account of a patient's glandular system—can do more than present a few general categories in a particular configuration. The scientist builds conceptual models, which, if he is fortunate, will reflect the essentials of what he wants to understand about a given phenomenon. But he knows that there is no such thing as the full representation of an individual instance. He also knows that there is no need to duplicate what already exists.

The artist, too, uses his categories of shape and color to capture something universally significant in the particular. He is neither intent on matching the unique nor able to do so. To be sure, the outcome of his effort is a uniquely particular object or performance. The world we approach when we look at a picture by Rembrandt has never been presented by anybody else; and to enter this world means to receive the particular mood and character of its lights and shadows, the faces and gestures of its human beings, and the attitude toward life conveyed by it all—to receive it through the immediacy of our senses and feelings. Words can wait and must wait until our mind distills, from the uniqueness of the experience, generalities that can be grasped by our senses, conceptualized, and labeled. To derive such generalities from a work of art is laborious, but not different in principle from trying to describe the nature of other complex things, such as the physical or mental make-up of living creatures. Art is the product of organisms and therefore probably neither more nor less complex than these organisms themselves.

It often happens that we see and feel certain qualities in a work of art but cannot express them in words. The reason for our failure is not that we use language, but that we have not yet succeeded in casting those perceived qualities into suitable categories. Language cannot do the job directly because it is no direct avenue for sensory contact with reality; it serves only to name what we have seen or heard or thought. By no means is it an alien medium, unsuitable for perceptual things; on the contrary, it refers to nothing but

perceptual experiences. These experiences, however, must be coded by perceptual analysis before they can be named. Fortunately, perceptual analysis is very subtle and can go far. It sharpens our vision for the task of penetrating a work of art to the limits of the ultimately impenetrable.

Another prejudice has it that verbal analysis paralyzes intuitive creation and comprehension. Again there is a core of truth here. The history of the past and the experience of the present provide many examples of the destruction wrought by formulas and recipes. But are we to conclude that in the arts one power of the mind must be suspended so another may function? Is it not true that disturbances occur precisely when any one mental faculty operates at the expense of another? The delicate balance of all a person's powers—which alone permits him to live fully and to work well—is upset not only when the intellect interferes with intuition, but equally when sensation dislodges reasoning. Groping in vagueness is no more productive than blind adherence to rules. Unchecked self-analysis can be harmful, but so can the artificial primitivism of the person who refuses to understand how and why he works. Modern man can, and therefore must, live with unprecedented self-awareness. Perhaps the task of living has become more difficult—but there is no way around it.

It is the purpose of this book to discuss some of the virtues of vision and thereby to help refresh and direct them. As long as I can remember I have been involved with art, studied its nature and history, tried my eyes and hands at it, and sought the company of artists, art theorists, art educators. This interest has been strengthened by my psychological studies. All seeing is in the realm of the psychologist, and no one has ever discussed the processes of creating or experiencing art without talking psychology. Some art theorists use the findings of psychologists to advantage. Others apply them one-sidedly or without admitting what they are doing; but inevitably they all use psychology, some of it up-to-date, some of it homegrown or left over from theories of the past.

On the other side, some psychologists have taken a professional interest in the arts. But it seems fair to say that for the most part they have contributed only marginally to our understanding of what matters. This is so, first of all, because psychologists are often interested in artistic activity mainly as an instrument for exploration of the human personality, as though art were little different from a Rorschach inkblot or the answers to a questionnaire. Or they limit their approaches to what can be measured and counted, and to concepts they have derived from experimental, clinical, or psychiatric practice. Perhaps this caution is well advised because the arts, like any other object of study,

require the kind of intimate knowledge that springs only from long love and patient devotion. Good art theory must smell of the studio, although its language should differ from the household talk of painters and sculptors.

My own undertaking here is limited in many ways. It refers only to the visual media, and among them mostly to painting, drawing, and sculpture. This emphasis, to be sure, is not altogether arbitrary. The traditional arts have accumulated innumerable examples of the greatest variety and highest quality. And they illustrate aspects of form with a precision obtainable only from the handiwork of the mind. These demonstrations, however, point to similar, though often less sharply manifest, phenomena in the photographic and performing arts. In fact, the present study developed from a psychological and aesthetic analysis of the film conducted in the twenties and thirties.

A further limitation of my work is psychological. All aspects of the mind bear on art, be they cognitive, social, or motivational. The artist's place in the community, the effect of his occupation on his relations with other human beings, the function of creative activity in the mind's striving for fulfillment and wisdom—none of these are the central focus of this book. Nor am I concerned with the psychology of the consumer. But I hope the reader will feel compensated by the rich imagery of shapes, colors, and movements that will meet him here. To establish some order in this lush overgrowth, to lay out a morphology, and to derive some principles gives us plenty to do.

This will be the first task: a description of what sorts of things we see and what perceptual mechanisms account for the visual facts. To stop at the surface level, however, would leave the whole enterprise truncated and meaningless. There is no point to visual shapes apart from what they tell us. This is why we shall constantly proceed from the perceived patterns to the meaning they convey; and once we endeavor to look that far, we may hope to recapture in depth what we lost in scope by deliberately narrowing our horizon.

The principles of my psychological thinking and many of the experiments I shall cite below derive from gestalt theory—a psychological discipline, I should probably add, which has no relation to the various forms of psychotherapy that have adopted the name. The word *gestalt*, the common German noun for shape or form, has been applied since the beginning of our century to a body of scientific principles that were derived mainly from experiments in sensory perception. It is generally admitted that the foundations of our present knowledge of visual perception were laid in the laboratories of the gestalt psychologists, and my own development has been shaped by the theoretical and practical work of this school.

More specifically, from its beginnings gestalt psychology had a kinship

to art. Art pervades the writings of Max Wertheimer, Wolfgang Köhler, and Kurt Koffka. Here and there the arts are explicitly mentioned, but what counts more is that the spirit underlying the reasoning of these men makes the artist feel at home. Indeed, something like an artistic vision of reality was needed to remind scientists that most natural phenomena are not described adequately if they are analyzed piece by piece. That a whole cannot be attained by the accretion of isolated parts was not something the artist had to be told. For centuries scientists had been able to say valuable things about reality by describing networks of mechanical relations; but at no time could a work of art have been made or understood by a mind unable to conceive the integrated structure of a whole.

In the essay that gave gestalt theory its name, Christian von Ehrenfels pointed out that if each of twelve observers listened to one of the twelve tones of a melody, the sum of their experiences would not correspond to the experience of someone listening to the whole melody. Much of the later experimentation of the gestalt theorists was designed to show that the appearance of any element depends on its place and function in an overall pattern. A thoughtful person cannot read these studies without admiring the active striving for unity and order manifest in the simple act of looking at a simple pattern of lines. Far from being a mechanical recording of sensory elements, vision proved to be a truly creative apprehension of reality—imaginative, inventive, shrewd, and beautiful. It became apparent that the qualities that dignify the thinker and the artist distinguish all performances of the mind. Psychologists also began to see that this fact was no coincidence: the same principles apply to all the various mental capacities because the mind always functions as a whole. All perceiving is also thinking, all reasoning is also intuition, all observation is also invention.

The relevance of these views to the theory and practice of the arts is evident. No longer can we consider what the artist does to be a self-contained activity, mysteriously inspired from above, unrelated and unrelatable to other human activities. Instead, we recognize the exalted kind of seeing that leads to the creation of great art as an outgrowth of the humbler and more common activity of the eyes in everyday life. Just as the prosaic search for information is "artistic" because it involves giving and finding shape and meaning, so the artist's conceiving is an instrument of life, a refined way of understanding who and where we are.

As long as the raw material of experience was considered an amorphous agglomeration of stimuli, the observer seemed free to handle it according to his arbitrary pleasure. Seeing was an entirely subjective imposition of shape

and meaning upon reality; and in fact, no student of the arts would deny that individual artists or cultures form the world after their own image. The gestalt studies, however, made it clear that more often than not the situations we face have their own characteristics, which demand that we perceive them appropriately. Looking at the world proved to require an interplay between properties supplied by the object and the nature of the observing subject. This objective element in experience justifies attempts to distinguish between adequate and inadequate conceptions of reality. Further, all adequate conceptions could be expected to contain a common core of truth, which would make the art of all times and places potentially relevant to all men. If it could be shown in the laboratory that a well-organized line figure imposes itself upon all observers as basically the same shape, regardless of the associations and fantasies it stirs up in some of them because of their cultural background and individual disposition, one could expect the same, at least in principle, with respect to people looking at works of art. This trust in the objective validity of the artistic statement supplied a badly needed antidote to the nightmare of unbounded subjectivism and relativism.

Finally, there was a wholesome lesson in the discovery that vision is not a mechanical recording of elements but rather the apprehension of significant structural patterns. If this was true for the simple act of perceiving an object, it was all the more likely to hold also for the artistic approach to reality. Obviously the artist was no more a mechanical recording device than his instrument of sight. The artistic representation of an object could no longer be thought of as a tedious transcription of its accidental appearance, detail by detail. In other words, here was a scientific analogy to the fact that images of reality can be valid even though far removed from "realistic" semblance.

It was encouraging for me to discover that similar conclusions had been reached independently in the field of art education. In particular Gustaf Britsch, with whose work I had become acquainted through Henry Schaefer-Simmern, asserted that the mind in its struggle for an orderly conception of reality proceeds in a lawful and logical way from the perceptually simplest patterns to patterns of increasing complexity. There was evidence, then, that the principles revealed in the gestalt experiments were also active genetically. The psychological interpretation of the growth process advanced in Chapter IV of the present book relies heavily on Schaefer-Simmern's theoretical formulations and lifelong experience as an educator. His work, *The Unfolding of Artistic Activity*, has demonstrated that the capacity to deal with life artistically is not the privilege of a few gifted specialists, but is available to every sane person whom nature has favored with a pair of eyes. To the psychologist

this means that the study of art is an indispensable part of the study of man.

At the risk of giving my fellow scientists good reason for displeasure, I am applying the principles in which I believe with a somewhat reckless one-sidedness, partly because the cautious installation of dialectic fire escapes, side entrances, emergency closets, and waiting rooms would have made the structure impractically large and orientation difficult, partly because in certain cases it is useful to state a point of view with crude simplicity and leave the refinements to the ensuing play of thrust and counterthrust. I must also apologize to the art historians for using their material less competently than might have been desirable. At the present time it is probably beyond the power of any one person to give a fully satisfactory survey of the relations between the theory of the visual arts and the pertinent work in psychology. If we try to match two things which, although related, have not been made for each other, many adjustments are necessary and many gaps have to be closed provisionally. I had to speculate where I could not prove, and to use my own eyes where I could not rely on those of others. I have taken pains to indicate problems that await systematic research. But after all is said and done, I feel like exclaiming with Herman Melville: "This whole book is but a draught—nay, but the draught of a draught. Oh, Time, Strength, Cash, and Patience!"

The book deals with what can be seen by everybody. I rely on the literature of art criticism and aesthetics only insofar as it has helped me and my students to see better. I have tried to spare the reader a hangover caused by reading many things that serve no good purpose. One of my reasons for writing this book is that I believe many people to be tired of the dazzling obscurity of arty talk, the juggling with catchwords and dehydrated aesthetic concepts, the pseudoscientific window dressing, the impertinent hunt for clinical symptoms, the elaborate measurement of trifles, and the charming epigrams. Art is the most concrete thing in the world, and there is no justification for confusing the mind of anybody who wants to know more about it.

To some readers the approach may seem inappropriately sober and pedestrian. They might be answered by what Goethe once wrote to a friend, Christian Gottlob Heyne, professor of rhetoric in Göttingen: "As you can see, my starting point is very down-to-earth, and it may seem to some that I have treated the most spiritual matter in too terrestrial a fashion; but I may be permitted to observe that the gods of the Greeks were not enthroned in the seventh or tenth heaven but on Olympus, taking a giant-sized stride not from sun to sun but, at most, from mountain to mountain." And yet, some caution on how to use this book may be in order. Recently, a young instructor at Dartmouth College exhibited an assemblage which, I am pleased to report,

was called *Homage to Arnheim*. It consisted of ten identical mousetraps, arranged in a row. At the spot where the bait was to be affixed, he had written the titles of this book's ten chapters, one on each contraption. If this artist's work was fair warning, what was he warning against?

This book may indeed act as a trap if it is used as a manual on approaching works of art. Anyone who has watched teachers guiding groups of children through a museum knows that to respond to the works of the masters is difficult at best. In the past, visitors could concentrate on the subject matter and thereby avoid facing the art. Then a generation of influential critics taught that even to consider the subject matter was a sure sign of ignorance. From then on, interpreters of art began to preach formal relations. But since they considered shapes and colors in a vacuum, theirs was nothing but a new way of avoiding art. For, as I suggested earlier, there is no point to visual shapes apart from what they tell us. Imagine now that a teacher used the method of this book superficially as a guide to approaching a work of art. "Now, children, let us see how many spots of red we can find in this painting by Matisse!" We proceed systematically, establishing an inventory of all the round shapes and all the angular ones. We hunt for parallel lines and for examples of superposition and of figure and ground. In the higher grades we seek out systems of gradients. When all the items are strung in order, we have done justice to the whole work. It can be done, and it has been done, but it is the last approach an adherent of gestalt psychology would want laid at his door.

If one wishes to be admitted to the presence of a work of art, one must, first of all, face it as a whole. What is it that comes across? What is the mood of the colors, the dynamics of the shapes? Before we identify any one element, the total composition makes a statement that we must not lose. We look for a theme, a key to which everything relates. If there is a subject matter, we learn as much about it as we can, for nothing an artist puts in his work can be neglected by the viewer with impunity. Safely guided by the structure of the whole, we then try to recognize the principal features and explore their dominion over dependent details. Gradually, the entire wealth of the work reveals itself and falls into place, and as we perceive it correctly, it begins to engage all the powers of the mind with its message.

This is what the artist works for. But it is also in the nature of man that he wishes to define what he sees and to understand why he sees what he does. Here the present book may be helpful. By making visual categories explicit, by extracting underlying principles, and by showing structural relations at work, this survey of formal mechanisms aims not to replace spontaneous intuition but to sharpen it, to shore it up, and to make its elements communicable. If the tools provided here kill the experience rather than enrich it, something has gone wrong. The trap must be avoided.

My first attempt to write this book dates back to the years 1941–1943, when I received a grant from the John Simon Guggenheim Memorial Foundation for the purpose. In the course of my work I was driven to the conclusion that the tools then available in the psychology of perception were inadequate for dealing with some of the more important visual problems in the arts. Instead of writing the book I had planned, I therefore undertook a number of specific studies, mainly in the areas of space, expression, and movement, designed to fill some of the gaps. The material was tested and expanded by my courses in the psychology of art at Sarah Lawrence College and the New School for Social Research in New York. When, in the summer of 1951, a fellowship from the Rockefeller Foundation made it possible for me to take a year's leave of absence, I felt ready to give a reasonably coherent account of the field. Whatever the worth of this book, I am greatly indebted to the officers of the Foundation's Humanities Division for enabling me to satisfy my need to put my findings on paper. It should be understood that the Foundation assumed no control over the project and has no responsibility for the result.

In 1968 I moved to Harvard University. The Department of Visual and Environmental Studies, housed in a beautiful building by Le Corbusier, became a new inspiration. In the company of painters, sculptors, architects, photographers, and film-makers I was able, for the first time, to devote all my teaching to the psychology of art and to test my suppositions against what I saw around me in the studios. The alert comments of my students continued to act as a stream of water, polishing the pebbles that make up this book.

I wish to express my gratitude to three friends, Henry Schaefer-Simmern, the art educator, Meyer Schapiro, the art historian, and Hans Wallach, the psychologist, for reading chapters of the first edition in manuscript and making valuable suggestions and corrections. My thanks are due also to Alice B. Sheldon for alerting me to a large number of technical flaws after the book came out in 1954. Acknowledgments to the institutions and individual proprietors that permitted me to reproduce their works of art or to quote from their publications appear in the captions and in the notes at the end of the volume. I wish explicitly to thank the children, most of them unknown to me, whose drawings I have used. In particular, I am happy that my book preserves some of the drawings of Allmuth Laporte, whose young life of beauty and talent was destroyed by illness at the age of thirteen years.

results of psychology of perception (Gestalt) applied to understanding art, a special kind of perception which is a meta-perception, based on another subject (the artist)'s perception of the world - Form + Content not separate (Gestalt)

I BALANCE

The Hidden Structure of a Square

Cut a disk out of dark cardboard and place it on a white square in the position indicated by Figure 1.

The location of the disk could be determined and described by measurement. A yardstick would tell in inches the distances from the disk to the edges of the square. Thus it could be inferred that the disk lies off-center.

Figure 1

This result would come as no surprise. We do not have to measure—we saw at a glance that the disk lies off-center. How is such "seeing" done? Did we behave like a yardstick by first looking at the space between the disk and the left edge and then carrying our image of that distance across to the other side to compare the two distances? Probably not. It would not be the most efficient procedure.

Looking at Figure 1 as a whole, we probably noticed the asymmetrical position of the disk as a visual property of the pattern. We did not see disk

and square separately. Their spatial relation within the whole is part of what we see. Such relational observations are an indispensable aspect of common experience in many sensory areas. "My right hand is larger than the left." "This flagpole is not straight." "That piano is out of tune." "This cocoa is sweeter than the kind we had before."

Objects are perceived immediately as having a certain size, that is, as lying somewhere between a grain of salt and a mountain. On the scale of brightness values, our white square lies high, our black disk low. Similarly, every object is seen as having a location. The book you are reading appears at a particular spot, which is defined by the room about you and the objects in it—among them notably you yourself. The square of Figure 1 appears somewhere on the book page, and the disk is off-center in the square. No object is perceived as unique or isolated. Seeing something involves assigning it a place in the whole: a location in space, a score on the scale of size or brightness or distance.

One difference between measurement with a yardstick and our visual judgments has already been mentioned. We do not establish sizes, distances, directions, singly and then compare them piece by piece. Typically we see these characteristics as properties of the total visual field. There is, however, another, equally important difference. The various qualities of the images produced by the sense of sight are not static. The disk in Figure 1 is not simply displaced with regard to the center of the square. There is something restless about it. It looks as though it had been at the center and wished to return, or as though it wants to move away even farther. And the disk's relations to the edges of the square are a similar play of attraction and repulsion.

Visual experience is always dynamic (interaction of tensions: size, position, shape, colour)

Visual experience is dynamic. This theme will recur throughout the present book. What a person or animal perceives is not only an arrangement of objects, of colors and shapes, of movements and sizes. It is, perhaps first of all, an interplay of directed tensions. These tensions are not something the observer adds, for reasons of his own, to static images. Rather, these tensions are as inherent in any percept as size, shape, location, or color. Because they have magnitude and direction, these tensions can be described as psychological "forces."

Notice further that if the disk is seen as striving toward the center of the square, it is being attracted by something not physically present in the picture. The center point is not identified by any marking in Figure 1; as invisible as the North Pole or the Equator, it is nonetheless a part of the perceived pattern, an invisible focus of power, established at a considerable distance by the outline of the square. It is "induced," as one electric current can be induced by

another. There are, then, more things in the field of vision than those that strike the retina of the eye. Examples of "induced structure" abound. An incompletely drawn circle looks like a complete circle with a gap. In a picture done in central perspective the vanishing point may be established by the convergent lines even though no actual point of meeting can be seen. In a melody one may "hear" by induction the regular beat from which a syncopated tone deviates, as our disk deviates from the center.

perceptual intuitions are not the same as logical inferences

Such perceptual inductions differ from logical inferences. Inferences are thought operations that add something to the given visual facts by interpreting them. Perceptual inductions are sometimes interpolations based on previously acquired knowledge. More typically, however, they are completions deriving spontaneously during perception from the given configuration of the pattern.

A visual figure such as the square in Figure 1 is empty and not empty at the same time. Its center is part of a complex hidden structure, which we can explore by means of the disk, much as we can use iron filings to explore the lines of force in a magnetic field. If the disk is placed at various locations within the square, it looks solidly at rest at some points; at others it exhibits a pull in a definite direction; and in others its situation seems unclear and wavering.

The disk is most stably settled when its center coincides with the center of the square. In Figure 2 the disk may be seen as drawn toward the contour

Figure 2

to the right. If we alter the distance, this effect is weakened or even reversed. We can find a distance at which the disk looks "too close," possessed by the urge to withdraw from the boundary. In that case the empty interval between the boundary and the disk will appear compressed, as though more breathing room were needed. For any spatial relation between objects there is a "correct" distance, established by the eye intuitively. Artists are sensitive to this requirement when they arrange the pictorial objects in a painting or the elements in

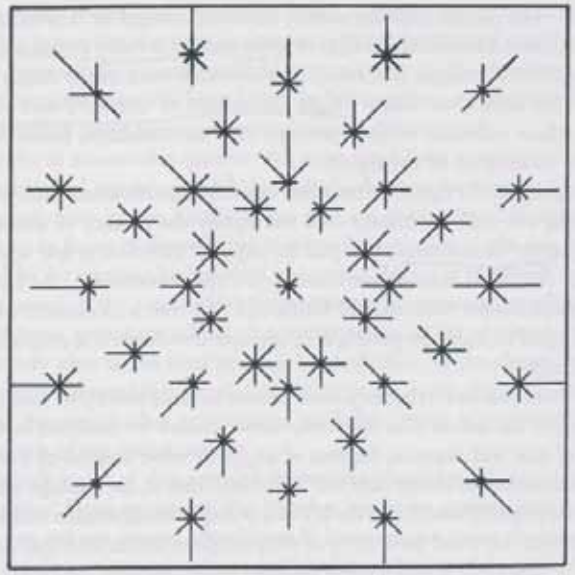

Figure 4
From Gunnar Goude and Inga Hjortzberg, *En Experimentell Prövning*, etc. Stockholm University, 1967.

direction of the lowest attainable tension level. Such a reduction of tension is obtained when elements of visual patterns can give in to the directed perceptual forces inherent in them. Max Wertheimer has pointed out that an angle of ninety-three degrees is seen not as what it is, but as a somehow inadequate right angle. When the angle is presented tachistoscopically, i.e., at short exposure, observers frequently report seeing a right angle, afflicted perhaps with some undefinable imperfection.

not only retinal vision

The roving disk, then, reveals that a visual pattern consists of more than the shapes recorded by the retina. As far as retinal input is concerned, the black lines and the disk are all there is to our figure. In perceptual experience, this stimulus pattern creates a structural skeleton, a skeleton that helps determine the role of each pictorial element within the balance system of the whole; it serves as a frame of reference, just as a musical scale defines the pitch value of each tone in a composition.

In still another way we must go beyond the black-and-white picture drawn

on paper. The picture plus the hidden structure induced by it is more than a lattice of lines. As indicated in Figure 3, the percept is really a continuous field of forces. It is a dynamic landscape, in which lines are actually ridges sloping off in both directions. These ridges are centers of attractive and repulsive forces, whose influence extends through their surroundings, inside and outside the boundaries of the figure.

No point in the figure is free from this influence. Granted there are "restful" spots, but their restfulness does not signify the absence of active forces. "Dead center" is not dead. No pull in any one direction is felt when pulls from all directions balance one another. To the sensitive eye, the balance of such a point is alive with tension. Think of a rope that is motionless while two men of equal strength are pulling it in opposite directions. It is still, but loaded with energy.

In short, just as a living organism cannot be described by an account of its anatomy, so the nature of a visual experience cannot be described in terms of inches of size and distance, degrees of angle, or wave lengths of hue. These static measurements define only the "stimulus," that is, the message sent to the eye by the physical world. But the life of a percept—its expression and meaning—derives entirely from the activity of the perceptual forces. Any line drawn on a sheet of paper, the simplest form modeled from a piece of clay, is like a rock thrown into a pond. It upsets repose, it mobilizes space. Seeing is the perception of action.

What Are Perceptual Forces?

The reader may have noted with apprehension the use of the term "forces." Are these forces merely figures of speech, or are they real? And if they are real, where do they exist?

They are assumed to be real in both realms of existence—that is, as both psychological and physical forces. Psychologically, the pulls in the disk exist in the experience of any person who looks at it. Since these pulls have a point of attack, a direction, and an intensity, they meet the conditions established by physicists for physical forces. For this reason, psychologists speak of psychological forces, even though to date not many of them have applied the term, as I do here, to perception.

In what sense can it be said that these forces exist not only in experience, but also in the physical world? Surely they are not contained in the objects we are looking at, such as the white paper on which the square is drawn or the dark cardboard disk. Of course, molecular and gravitational forces are active

in these objects, holding their microparticles together and preventing them from flying away. But there are no known physical forces that would tend to push an eccentrically placed patch of printer's ink in the direction of the center of a square. Nor will lines drawn in ink exert any magnetic power on the surrounding paper surface. Where, then, are these forces?

In order to answer this question we must recall how an observer obtains his knowledge of the square and the disk. Light rays, emanating from the sun or some other source, hit the object and are partly absorbed and partly reflected by it. Some of the reflected rays reach the lenses of the eye and are projected on its sensitive background, the retina. Many of the small receptor organs situated in the retina combine in groups by means of ganglion cells. Through these groupings a first, elementary organization of visual shape is obtained very close to the level of retinal stimulation. As the electrochemical messages travel toward their final destination in the brain, they are subjected to further shaping at other way stations until the pattern is completed at the various levels of the visual cortex.

At which stages of this complex process the physiological counterpart of our perceptual forces originates, and by what particular mechanisms it comes about, is beyond our present knowledge. If, however, we make the reasonable assumption that every aspect of a visual experience has its physiological counterpart in the nervous system, we can anticipate, in a general way, the nature of these brain processes. We can assert, for instance, that they must be field processes. This means that whatever happens at any one place is determined by the interaction between the parts and the whole. If it were otherwise, the various inductions, attractions, and repulsions could not occur in the field of visual experience.

An observer sees the pushes and pulls in visual patterns as genuine properties of the perceived objects themselves. By mere inspection he can no more distinguish the restlessness of the eccentric disk from what occurs physically on the page of the book than he can tell the reality of a dream or hallucination from the reality of physically existing things.

Whether or not we choose to call these perceptual forces "illusions" matters little so long as we acknowledge them as genuine components of everything seen. The artist, for example, need not worry about the fact that these forces are not contained in the pigments on the canvas. What he creates with physical materials are experiences. The perceived image, not the paint, is the work of art. If a wall looks vertical in a picture, it is vertical; and if walkable space is seen in a mirror, there is no reason why images of men should not walk

right into it, as happens in some movies. The forces that pull our disk are "illusory" only to the man who decides to use their energy to run an engine. Perceptually and artistically, they are quite real.

Two Disks in a Square

To move a bit closer to the complexity of the work of art, we now introduce a second disk into the square (Figure 5). What is the result? First of all,

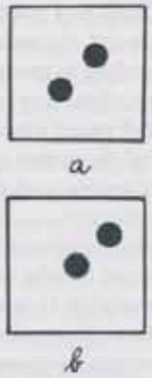

Figure 5

some of the previously observed relations betwen disk and square recur. When the two disks lie close together, they attract each other and may look almost like one indivisible thing. At a certain distance they repel each other because they are too close together. The distance at which these effects occur depends on the size of the disks and the square, as well as on the location of the disks within the square.

The locations of the disks may balance each other. Either of the two locations in Figure 5*a* might look unbalanced by itself. Together they create a symmetrically located pair at rest. The same pair, however, may look badly unbalanced when moved to another location (Figure 5*b*). Our earlier analysis of the structural map helps explain why. The two disks form a pair because of their closeness and their similarity in size and shape, and also because they are the only "content" of the square. As members of a pair they tend to be seen as symmetrical; that is, they are given equal value and function in the whole. This perceptual judgment, however, conflicts with another, deriving

from the location of the pair. The lower disk lies in the prominent and stable position of the center. The upper one is at a less stable location. Thus location creates a distinction between the two that conflicts with their symmetrical pairness. This dilemma is insoluble. The spectator finds himself shifting between two incompatible conceptions. The example shows that even a very simple visual pattern is fundamentally affected by the structure of its spatial surroundings, and that balance can be disturbingly ambiguous when shape and spatial location contradict each other.

Psychological and Physical Balance

It is time to state more explicitly what we mean by balance or equilibrium. If we demand that in a work of art all elements be distributed in such a way that a state of balance results, we need to know how balance can be attained. Moreover, some readers may believe the call for balance to be nothing but a particular stylistic, psychological, or social preference. Some people like equilibrium, some don't. Why, then, should balance be a necessary quality of visual patterns?

To the physicist, balance is the state in which the forces acting upon a body compensate one another. In its simplest form, balance is achieved by two forces of equal strength that pull in opposite directions. The definition is applicable to visual balance. Like a physical body, every finite visual pattern has a fulcrum or center of gravity. And just as the physical fulcrum of even the most irregularly shaped flat object can be determined by locating the point at which it will balance on the tip of a finger, so the center of a visual pattern can be determined by trial and error. According to Denman W. Ross, the simplest way to do this is to move a frame around the pattern until the frame and pattern balance; then the center of the frame coincides with the weight center of the pattern.

Except for the most regular shapes, no known method of rational calculation can replace the eye's intuitive sense of balance. From our previous assumption it follows that the sense of sight experiences balance when the corresponding physiological forces in the nervous system are distributed in such a way that they compensate one another.

If, however, one hangs an empty canvas on a wall, the pattern's visual center of gravity coincides only roughly with the physical center ascertained by balancing the canvas on a finger. As we shall see, the canvas's vertical position on the wall influences the distribution of visual weight, and so do colors, shapes, and pictorial space when the canvas has a picture painted on it. Similarly, the visual center of a piece of sculpture cannot be determined simply by

suspending it on a string. Here again, vertical orientation will matter. It also makes a difference whether the sculpture hangs in midair or rests on a base, stands in empty space or reposes in a niche.

There are other differences between physical and perceptual equilibrium. On the one hand, the photograph of a dancer may look unbalanced even though his body was in a comfortable position when the photograph was taken. On the other, a model may find it impossible to hold a pose that appears perfectly poised in a drawing. A sculpture may need an internal armature to hold it upright despite its being well balanced visually. A duck can sleep peacefully standing on one oblique leg. These discrepancies occur because factors such as size, color, or direction contribute to visual balance in ways not necessarily paralleled physically. A clown's costume—red on the left side, blue on the right—may be asymmetrical to the eye as a color scheme, even though the two halves of the costume, and indeed of the clown, are equal in physical weight. In a painting, a physically unrelated object, such as a curtain in the background, may counterbalance the asymmetrical position of a human figure.

An amusing example is found in a fifteenth-century painting that represents St. Michael weighing souls (Figure 6). By the mere strength of prayer, one frail little nude outweighs four big devils plus two millstones. Unfortunately prayer carries only spiritual weight and provides no visual pull. As a remedy, the painter has used a large dark patch on the angel's robe just below the scale holding the saintly soul. By visual attraction, nonexistent in the physical object, the patch creates the weight that adapts the appearance of the scene to its meaning.

Why Balance?

Why is pictorial balance indispensable? It must be remembered that visually as well as physically, balance is the state of distribution in which all action has come to a standstill. Potential energy in the system, says the physicist, has reached the minimum. In a balanced composition all such factors as shape, direction, and location are mutually determined in such a way that no change seems possible, and the whole assumes the character of "necessity" in all its parts. An unbalanced composition looks accidental, transitory, and therefore invalid. Its elements show a tendency to change place or shape in order to reach a state that better accords with the total structure.

Under conditions of imbalance, the artistic statement becomes incomprehensible. The ambiguous pattern allows no decision on which of the possible configurations is meant. We have the sense that the process of creation has been accidentally frozen somewhere along the way. Since the configuration

Figure 6
St. Michael Weighing Souls. Austrian, c. 1470. Allen Memorial Museum, Oberlin College.

calls for change, the stillness of the work becomes a handicap. Timelessness gives way to the frustrating sensation of arrested time. Except for the rare instances in which this is precisely the effect the artist intends, he will strive for balance in order to avoid such instability.

Of course balance does not require symmetry. Symmetry in which, for ex-

ample, the two wings of a composition are equal is a most elementary manner of creating equilibrium. More often the artist works with some kind of inequality. In one of El Greco's paintings of the Annunciation, the angel is much larger than the Virgin. But this symbolic disproportion is compelling only because it is fixated by counterbalancing factors; otherwise, the unequal size of the two figures would lack finality and, therefore, meaning. It is only seemingly paradoxical to assert that disequilibrium can be expressed only by equilibrium, just as disorder can be shown only by order or separateness by connection.

The following examples are adapted from a test designed by Maitland Graves to determine the artistic sensitivity of students. Compare *a* and *b* in Figure 7. The left figure is well balanced. There is enough life in this combination of squares and rectangles of various sizes, proportions, and directions, but they hold one another in such a way that every element stays in its place, everything is necessary, nothing is seeking to change. Compare the clearly established internal vertical of *a* with its pathetically wavering counterpart in *b*. In *b*, proportions are based on differences so small that they leave the eye uncertain whether it is contemplating equality or inequality, symmetry or asymmetry, square or rectangle. We cannot tell what the pattern is trying to say.

Somewhat more complex, but no less irritatingly ambiguous, is Figure 8a. Relations are neither clearly rightangular nor clearly oblique. The four lines are not sufficiently different in length to assure the eye that they are unequal. The pattern, adrift in space, approaches on the one hand the symmetry of a crosslike figure of vertical-horizontal orientation, and on the other the shape of a kind of kite with a diagonal symmetry axis. Neither interpretation, however, is conclusive; neither admits of the reassuring clarity conveyed by Figure 8*b*.

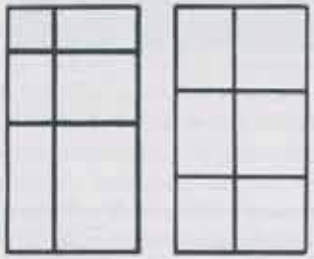

Figure 7

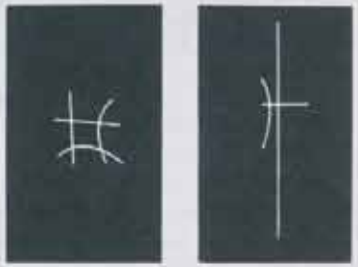

Figure 8

Disequilibrium does not always make the whole configuration fluid. In Figure 9 the symmetry of the Latin cross is so firmly established that the deviating curve may be perceived as a flaw. Here, then, a balanced pattern is so strongly established that it attempts to preserve its integrity by segregating any departure as an intruder. Under such conditions, disequilibrium causes a local interference with the unity of the whole. It would be worth studying in this respect the small deviations from symmetry in frontally oriented portraits or in traditional representations of the crucifixion, in which the inclination of Christ's head is often balanced by slight modulations of the otherwise frontal body.

Weight

Two properties of visual objects have a particular influence on equilibrium: weight and direction.

In the world of our bodies we call weight the strength of the gravitational force pulling objects downward. A similar downward pull can be observed in pictorial and sculptural objects, but visual weight exerts itself in other directions as well. For example, as we look at objects within a painting their weight seems to produce tension along the axis connecting them with the eye of the observer, and it is not easy to tell whether they pull away from or push toward the person looking at them. All we can say is that weight is always a dynamic effect, but the tension is not necessarily oriented along a direction within the picture plane.

Weight is influenced by *location*. A "strong" position on the structural framework (Figure 3) can support more weight than one lying off-center or

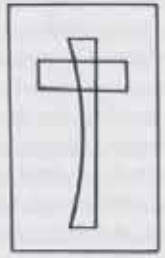

Figure 9

If the foregoing analysis of Cézanne's painting is correct, it will not only hint at the wealth of dynamic relations in the work, it will also suggest how these relations establish the particular balance of rest and activity that impressed us as the theme or content of the picture. To realize how this pattern of visual forces reflects the content is helpful in trying to appraise the artistic excellence of the painting.

Two general remarks should be added. First, the subject matter of the picture is an integral part of the structural conception. Only because shapes are recognized as head, body, hands, chair, do they play their particular compositional role. The fact that the head harbors the mind is at least as important as its shape, color, or location. As an abstract pattern, the formal elements of the picture would have to be quite different to convey similar meaning. The observer's knowledge of what is signified by a seated, middle-aged woman contributes strongly to the deeper sense of the work.

Second, it will have been noticed that the composition rests on point and counterpoint—that is, on many counterbalancing elements. But these antagonistic forces are not contradictory or conflicting. They do not create ambiguity. Ambiguity confuses the artistic statement because it leaves the observer hovering between two or more assertions that do not add up to a whole. As a rule, pictorial counterpoint is hierarchic—that is, it sets a dominant force against a subservient one. Each relation is unbalanced in itself; together they all balance one another in the structure of the whole work.

!!

my conception – ~~Arthur~~ Arnheim wrong!!

reflection but as accurately as possible what they have seen. The examples in Figure 39 schematically illustrate the kind of result that is typically obtained.

The samples give an idea of the impressive variety of reactions, which is due partly to individual differences and partly to such factors as differences in

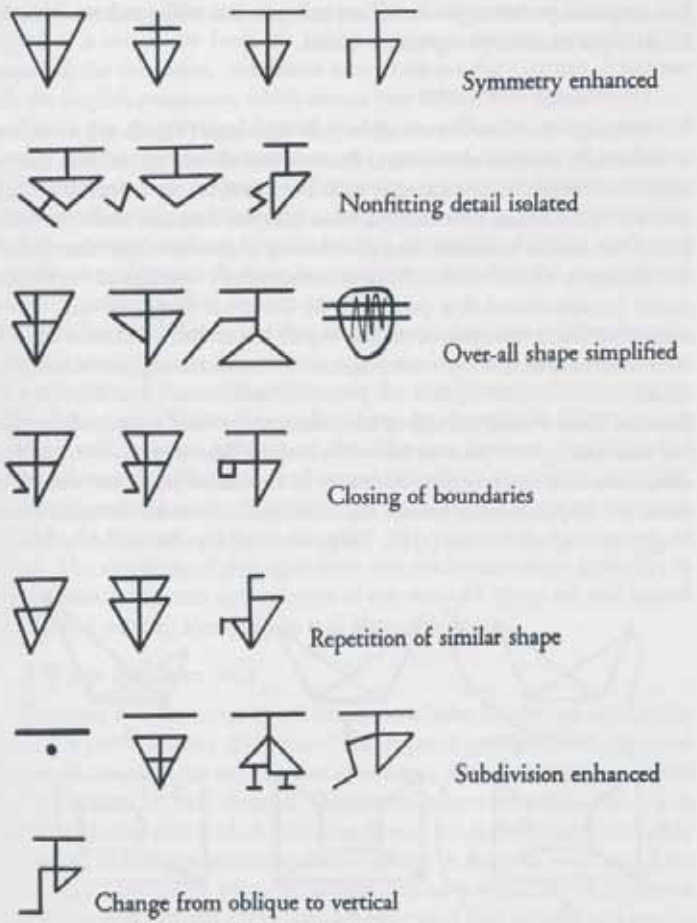

Figure 39

exposure time and the distance of the observer. All the samples represent simplifications of the stimulus pattern. One admires the ingenuity of the solutions, the imaginative power of vision, which reveals itself even though the drawings are done quickly, spontaneously, and with no other pretense than faithfully to record what has been seen. Some aspects of the figures may be graphic interpretations of the percept rather than properties of the percept itself. Nevertheless, such an experiment gives sufficient evidence that seeing and remembering involves the creation of organized wholes.

Leveling and Sharpening

Although the observers reveal in their drawings (Figure 39) a tendency to reduce the number of structural features and thereby to simplify the pattern, other tendencies are active as well. For example, the fourth drawing in the row "Subdivision enhanced" is more complex than the model in that it breaks the central horizontal line and thereby intensifies rather than reduces the dynamics of the model. This countertendency manifested itself more clearly in experiments first performed by Friedrich Wulf. He used figures containing slight ambiguities, such as Figure 40*a* and *d*. The two wings of *a* are almost but not quite symmetrical, and the small rectangle in *d* is slightly off-center. When such figures are presented under conditions that keep the stimulus control weak enough to leave observers with a margin of freedom, two principal types of reaction follow. In making drawings of what they have seen, some subjects perfect the symmetry of the model (*b*, *e*) and thereby increase its simplicity; they reduce the number of structural features. Others exaggerate the asymmetry (*c*, *f*). They, too, simplify the model, but in the

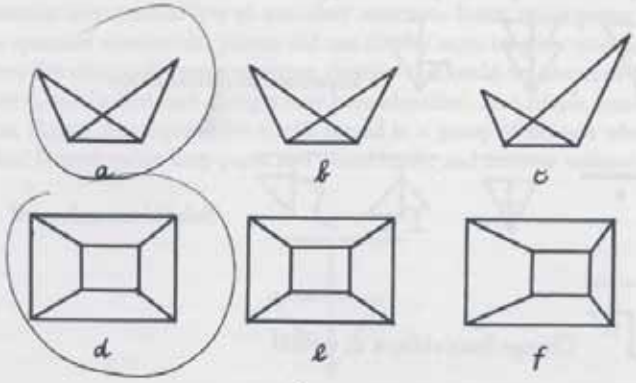

Figure 40

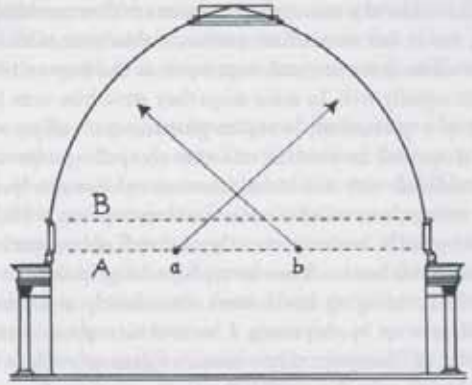

Figure 278

cupola tilts inward, which produces an oblique sagging, a heaviness. The delicate balancing of all these dynamic factors creates the complex and at the same time unified expression of the whole. "The symbolic image of weight," says Wölfflin, "is maintained, yet dominated by the expression of spiritual liberation." Michelangelo's dome thus embodies "the paradox of the baroque spirit in general."

We are beginning to see that perceptual expression does not necessarily relate to a mind "behind it." This is true even for responses to human behavior. Köhler has pointed out that people normally respond to external behavior in itself, rather than thinking of it explicitly as a mere reflection of mental attitudes. People perceive the slow, listless, "droopy" movements of one person as contrasted to the brisk, straight, vigorous movements of another, but do not necessarily go beyond the appearance to think of psychic weariness or alertness behind it. Weariness and alertness are contained in the physical behavior itself; they are not distinguished in any essential way from the weariness of slowly floating tar or the energetic ring of the telephone bell. It is true, of course, that during a crucial conversation one person may be greatly concerned with trying to read the other's thoughts and feelings through what can be seen in his face and gestures. "What is he up to? How is he taking it?" But in such circumstances one clearly goes beyond what is apparent in the perception of expression itself.

From here it takes only one small further step to acknowledge that visual expression resides in any articulately shaped object or event. A steep rock, a

willow tree, the colors of a sunset, the cracks in a wall, a tumbling leaf, a flowing fountain, and in fact a mere line or color, or the dance of an abstract shape on the movie screen have as much expression as the human body, and may serve the artist equally well. In some ways they serve him even better, for the human body is a particularly complex pattern, not easily reduced to the simplicity of shape and motion that transmits compelling expression. In addition, it is overloaded with non-visual associations. Vincent Van Gogh once made two drawings, one called *Sorrow* and representing a nude girl sitting with her head buried in her arms, the other a sketch of bare trees with gnarled roots. In a letter to his brother Theo he explained that he tried to put the same sentiment in both, "clinging to the earth convulsively and passionately and yet being half torn up by the storm. I wanted to express something of the struggle for life, in that pale, thin woman's figure as well as in the black, gnarled, and knotty roots." Actually, the almost abstract shapes of the roots carry the message more successfully than the conventionally drawn figure. The human body is not the easiest, but the most difficult vehicle of visual expression.

If one thinks of expression as something reserved for human behavior, one can account for the expression perceived in nature only as the result of the "pathetic fallacy"—a notion apparently introduced by John Ruskin and intended to describe, say, the sadness of weeping willows as a figment of empathy, anthropomorphism, primitive animism. However, if expression is an inherent characteristic of perceptual patterns, its manifestations in the human figure are but a special case of a more general phenomenon. The comparison of an object's expression with a human state of mind is a secondary process. The willow is not "sad" because it looks like a sad person. Rather, because the shape, direction, and flexibility of the branches convey passive hanging, a comparison with the structurally similar state of mind and body that we call sadness imposes itself secondarily.

Once expression has been anthropomorphized, it is natural to use words derived from human states of mind to describe objects, processes, or the dynamics of music. Actually it would be instructive and appropriate to do the opposite, and describe human behavior and expression by the more general properties pertaining to nature as a whole. Goethe once remarked: "It is our conviction that the quest for adjectives to express diversities of character has by no means exhausted the possibilities. For instance, one may attempt to use metaphorically the differences pointed up in the physical theory of cohesion; there would be strong, firm, dense, elastic, flexible, agile, rigid, tough, fluid, and who knows what other characters." In following Goethe's advice, one

would get a better sense of human expression as a special case of organic and inorganic behavior, instead of insisting on man as the center and standard of nature. With regard to such phenomena, science is still waiting for its Copernicus.

When we go by the perceived patterns of forces, some objects and events resemble each other; others do not. On the basis of their expressive appearance, our eye spontaneously creates a kind of Linnean classification of all existing things. This perceptual classification cuts across the order suggested by other kinds of categories. Particularly in our modern Western civilization we are accustomed to distinguishing between animate and inanimate things, human and nonhuman creatures, the mental and the physical. But in terms of expressive qualities, the character of a given person may resemble that of a particular tree more closely than that of another person. The state of affairs in a human society may be similar to the tension in the skies just before the outbreak of a thunderstorm. Poets use such analogies, and so do other unspoiled people.

So-called primitive languages give us an idea of the kind of world that derives from a classification based on perception. Instead of restricting itself to the verb "to walk," which rather abstractly refers to locomotion, the language of the African Ewe takes care to specify for every kind of walking the particular expressive qualities of the movement. There are expressions for "the gait of a little man whose limbs shake very much, to walk with a dragging step like a feeble person, the gait of a long-legged man who throws his legs forward, of a corpulent man who walks heavily, to walk in a dazed fashion without looking ahead, an energetic and firm step," and many others. These distinctions are made not as an aesthetic exercise, but because the expressive properties of the gait are believed to reveal important and useful information on the kind of man who is walking and his intent at the time.

Although such languages often surprise us by their wealth of subdivisions for which we see no need, they also reveal generalizations that to us may seem unimportant or absurd. For example, the language of the Klamath Indians has prefixes for words referring to objects of similar shape or movement. Such a prefix may describe "the outside of a round or spheroidal, cylindrical, discoid or bulbed object, or a ring; also voluminous; or again, an act accomplished with an object which bears such a form; or a circular or semi-circular or waving movement of the body, arms, hands, or other parts. Therefore this prefix is to be found connected with clouds, celestial bodies, rounded slopes on the earth's surface, fruits rounded or bulbed in shape, stones and dwellings (these

will ask about the expression of the figure; he may be told that the person on the floor looks tense, tied together, full of potential energy. He will suggest, then, that the student try to render this quality. In doing so the student will watch proportions and directions, but not as static geometric properties, "correct" for correctness's sake. These formal features will be understood as means of making the primarily observed expression come across on paper, and the correctness and incorrectness of each stroke will be judged on the basis of whether or not it captures the dynamic "mood" of the subject.

Equally, in a lesson on design, it will be made clear that to the artist just as to any unspoiled human being, a circle is not a line of constant curvature whose points are all equidistant from a center, but first of all a compact, hard, stable thing. Once the student has understood that roundness is not identical with circularity, he may try for a design whose structural logic will be controlled by the primary concept of something to be expressed. An artificial concentration on mere shapes and colors as such will leave the student at a loss as to which pattern to select among innumerable and equally acceptable ones. An expressive theme will serve him as a natural guide to forms that fit his purpose.

It will be evident that what is advocated here is not so-called "self-expression." The method of self-expression plays down, or even annihilates, the theme to be represented. It recommends a passive, "projective" pouring-out of what is felt inside. On the contrary, the method discussed here requires active, disciplined concentration of all organizing powers upon the expression found in one's vision of the world.

It might be argued that an artist must practice the purely formal technique before he can hope to render expression successfully. But this notion reverses the natural order of the artistic process. In fact all good practicing is highly expressive. This first occurred to me many years ago when I watched the dancer Gret Palucca perform one of her most popular program pieces, which she called "Technical Improvisations." This number was nothing but the systematic exercise that the dancer practiced every day in her studio to loosen up the joints of her body. She would start out by doing turns of her head, then move her neck, then shrug her shoulders, ending up wriggling her toes. This purely technical practice succeeded with the audience because it was thoroughly expressive. Forcefully precise and rhythmical movements presented quite naturally the entire repertoire of human pantomime. They passed through all the moods from lazy happiness to impertinent satire.

In order to achieve technically precise movements, a capable dance teacher may ask students not to perform "geometrically" defined positions, but to

strive for the muscular experience of uplift, or attack, or yielding, that will be created by correctly executed movements. Comparable methods are nowadays applied in physical therapy. For example, the patient is asked to concentrate not on the meaningless, purely formal exercise of flexing and stretching his arm, but on a game or piece of work that involves suitable motions of the limbs as means to a sensible end.

Symbolism in Art

All perceptual qualities have generality. I mentioned this earlier, and I intended the statement to mean that to some extent we see redness in every red spot or speed in every fast movement. The same is true for expression. When Picasso conveys to us in a painting the gentle ways in which a mother guides the first steps of her unsteadily walking child, we see gentleness as a general quality exemplified in a particular case. In this sense it is valid to say that Picasso's picture symbolizes gentleness. In fact, for our purpose, the terms expression and symbolization can be used interchangeably. The example also suggests that the task of expressing or symbolizing a universal content through a particular image is carried out not only by the formal pattern, but by the subject matter as well, if there is one.

Only with regard to subject matter can the term symbolism be used in a more restricted sense. When Rembrandt depicts Aristotle contemplating the bust of Homer, it makes sense to ask whether the artist intended to narrate a scene that has taken place or might have taken place in a world of history or fable, or whether the scene is meant as purely "symbolic." In the latter case the subject matter and its arrangement are designed to embody an idea, and they may indicate this purpose by the unlikelihood of their occurrence in any real or imagined world. A clear instance of such symbolism is the painting by Titian commonly referred to as "Sacred and Profane Love"; it will hardly be taken by anyone as a genre scene, in which a clothed and a nude woman sit together on a well. The same is true for the engraving of Dürer's in which a winged woman with a goblet in her hand stands on a sphere moving through the clouds.

The correct reading of such a picture depends heavily on conventions. These conventions tend to standardize the way a certain idea is to be depicted, so that, for example, in Christian art a lily is known to symbolize the virginity of Mary, lambs are disciples, and two deer drinking from a pond show the recreation of the faithful.

However, the more an artistic experience depends on knowledge, the less direct it is likely to be. Therefore symbolism in this sense is hardly relevant to

the subject of the present book. Of minor interest also is "symbolism" in the sense of Freudian psychoanalysis. Freud's interpretation differs in a crucial way from what is considered here as the nature of art. He treats symbolism not as the relation between a concrete image and an abstract idea, but rather as a relation between equally concrete objects, e.g., between a dagger and the erect male genital. If after penetrating the work of a great artist we were left with nothing but references to organs and functions of the human body, we would rightly wonder what makes art such a universal and supposedly vital creation of the human mind.

A moment of reflection shows that sex, like any other particular subject matter, can never be the ultimate content of a valid artistic experience. It can only serve as formal material, employed by the artist to point to the ideas at which his work ultimately aims. This formal material is constituted by the entirety of the visual facts presented in the work. In this sense, we find symbolism even in works that, at first sight, seem to be little more than arrangements of fairly neutral objects. We need only glance at the bare outlines of the two still lifes sketched in Figure 279 to experience two different conceptions of reality. Cézanne's picture (*a*) is dominated by the stable framework of verticals and horizontals in the background, the table, and the axes of bottles and glass. This skeleton is strong enough to give support even to the sweeping folds of the fabric. A simple order is conveyed by the upright symmetry of each bottle and that of the glass. There is abundance in the swelling volumes and emphasis on roundness and softness even in the inorganic matter. Compare this image of prosperous peace with the catastrophic turmoil in Picasso's work (*b*). Here we find little stability. The vertical and horizontal orientations are avoided. The room is slanted, the right angles of the table, which is overturned, are either hidden by oblique position or distorted. The four legs do not run parallel. The bottle topples, the desperately sprawling corpse of the bird is about to fall off the table. The contours tend to be hard, sharp, and lifeless, even in the body of the chicken.

In great works of art the deepest significance is transmitted to the eye with powerful directness by the perceptual characteristics of the compositional pattern. The "story" of Michelangelo's *Creation of Man*, on the ceiling of the Sistine Chapel in Rome (Figure 280), is understood by every reader of the book of Genesis. But even the story is modified in a way that makes it more comprehensible and impressive to the eye. The Creator, instead of breathing a living soul into the body of clay—a motif not easily translatable into an expressive pattern—reaches out toward the arm of Adam as though an animating spark, leaping from fingertip to fingertip, were transmitted from the maker

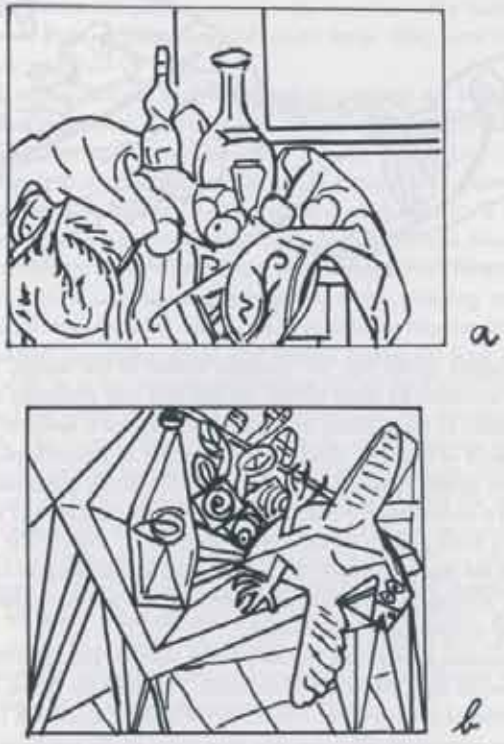

Figure 279

to the creature. The bridge of the arm visually connects two separate worlds: the self-contained compactness of the mantle that encloses God and is given forward motion by the diagonal of his body; and the incomplete, flat slice of the earth, whose passivity is expressed in the backward slant of its contour. There is passivity also in the concave curve over which the body of Adam is molded. It is lying on the ground and enabled partly to rise by the attractive power of the approaching creator. The desire and potential capacity to get up and walk are indicated as a subordinate theme in the left leg, which also serves as a support of Adam's arm, unable to maintain itself freely like the energy-charged arm of God.

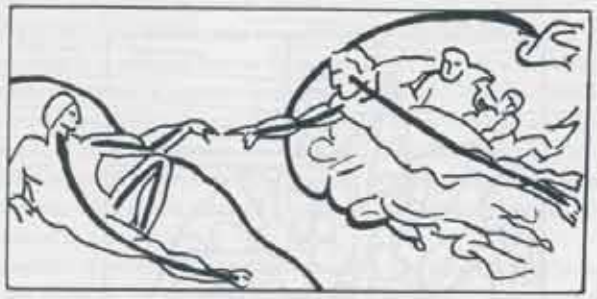

Figure 280

Our analysis shows that the ultimate theme of the image, the idea of creation, is conveyed by what strikes the eye first and continues to organize the composition as we examine its details. The structural skeleton reveals the dynamic theme of the story. And since the pattern of transmitted, life-giving energy is not simply recorded by the sense of vision but presumably arouses in the mind a corresponding configuration of forces, the observer's reaction is more than a mere taking cognizance of an external object. The forces that characterize the meaning of the story come alive in the observer and produce the kind of stirring participation that distinguishes artistic experience from the detached acceptance of information.

What matters most is that the image does not just elucidate the meaning of the individual story presented in the work. The dynamic theme revealed by the compositional pattern is not limited to the biblical episode at hand, but is valid for any number of situations that may occur in the psychical and physical world. Not only is the perceptual pattern a means of understanding the story of the creation of man, but the story becomes a means of illustrating a kind of event that is universal and therefore abstract and therefore in need of being clad with flesh and blood so that the eye may see it.

Consequently, the visual form of a work of art is neither arbitrary nor a mere play of shapes and colors. It is indispensable as a precise interpreter of the idea the work is meant to express. Similarly, the subject matter is neither arbitrary nor unimportant. It is exactly correlated with the formal pattern to supply a concrete embodiment of an abstract theme. The kind of connoisseur who looks only for the pattern does as little justice to the work as the kind of layman who looks only for the subject matter. When Whistler called the portrait of his mother *Arrangement in Gray and Black*, he treated his picture as

one-sidedly as someone who sees nothing in it but a dignified lady sitting in a chair. Neither the formal pattern nor the subject matter is the final content of the work of art. Both are instruments of artistic form. They serve to give body to an invisible universal.

Viewed in this fashion, traditional representational art leads without a break to the nonmimetic, "abstract" art of our century. Anyone who has grasped the abstraction in representational art will see the continuity, even though art ceases to depict objects of nature. In its own way, nonmimetic art does what art has always done. Each successful work presents a skeleton of forces whose meaning can be read as directly as that inherent in Michelangelo's story of the first man. Such "abstract" art is not "pure form," because we have discovered that even the simplest line expresses visible meaning and is therefore symbolic. It does not offer intellectual abstractions, because there is nothing more concrete than color, shape, and motion. It does not limit itself to the inner life of man, or to the unconscious, because for art the distinctions between the outer and the inner world and the conscious and the unconscious mind are artificial. The human mind receives, shapes, and interprets its image of the outer world with all its conscious and unconscious powers, and the realm of the unconscious could never enter our experience without the reflection of perceivable things. There is no way of presenting the one without the other. But the nature of the outer and inner worlds can be reduced to a play of forces, and this "musical" approach is attempted by the misnamed abstract artists.

We do not know what the art of the future will look like. No one particular style is art's final climax. Every style is but one valid way of looking at the world, one view of the holy mountain, which offers a different image from every place but can be seen as the same everywhere.

100 Notes – 100 Thoughts / 100 Notizen – 100 Gedanken

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