

Title:	Art and Visual Perception: A Psychology of the Creative Eye
Abbreviated Title:	AVP – Arnheim 1954
Author:	Rudolf Arnheim
Date of Work:	1954
Type of Work / Pages:	Book / 518 pages
Publisher:	University of California Press
URL:	http://www.amazon.com/Art-Visual-Perception-Psychology-Creative/dp/0520243838
Keywords:	Visual Perception; Visual Analysis; Gestalt Theory; Perceptual Principles; Psychological Forces
Abstract:	This book casts the visual process in psychological terms and describes the creative way one's eye organizes visual material according to specific psychological premises. In 1974 this book was revised and expanded, and since then it has continued to burnish Rudolf Arnheim's reputation as a groundbreaking theoretician in the fields of art and psychology.

Introduction

Author - “we are overwhelmed by a flood of books, articles, dissertations, speeches, lectures, guides – ready to tell us what is art and what is not” p. v

- “Our eyes are being reduced to instruments by which to measure and identify – and an incapacity to discover meaning in what we see” p. v
- “Our capacity to understand through the eyes have been put to sleep and must be reawakened. Prejudices assert that **Visual Things** cannot be expressed in words” p. vi
- “If we see...a work of art yet cannot describe or explain them, the reason for our failure is not that we use Words but that **our Eyes** and thoughts do not succeed in discovering **Generalities** able to do the job. **Language** is no avenue for sensory contact with reality – it serves merely to name what we have seen or heard or thought. It fails us when and because **Visual Analysis** breaks down. But fortunately **Visual Analysis** can...call forth the potential capacity to “see” p. vi

A Prejudice - “...maintains that **Verbal Analysis** will paralyze intuitive creation and comprehension” p. vi

- **Question:** “Are we to conclude that in the field of the arts one power of the mind must be put out of action so that another may function? pp. Vi-viii
- “The delicate balance of all our powers is upset when the intellect interferes with intuition, but also when feeling dislodges reasoning” p. vii

Modern Man – can and therefore must, live with unprecedented self-awareness p. vii

Purpose of this book – to discuss the **Virtues of Vision** and thereby to help refresh and direct them. All seeing is in the realm of the psychologist, and nobody has ever discussed the process of creating or experiencing art without talking about **Psychology** – the science of the mind p. vii

- “I am trying to apply approaches and findings of **Modern Psychology** to the **Study of Art**. The experiments and principles of psychology are derived from **Gestalt Theory**. The foundation of our present knowledge of **Visual Perception** are laid in the **Gestalt School**” p. vii
- **The following writers focus on Gestalt Theory:**
 - Max Wertheimer
 - Kurt Koffka
 - Wolfgang Kohler p. vii
- artists have known that a whole cannot be attained by adding up isolated parts p. vii

Author - “Scientists say valuable things about reality without going beyond the simple level of reasoning that excludes the **complexities of Organization** and **Interaction**” pp. Vii-viii

Gestalt Theory – defined by **Von Ehrenfels**; later experimentation designed to show that the appearance of any element depends on its **Place and Function** in the **Pattern as a Whole** p. viii

- **Vision** – is a truly creative grasp of reality – imaginative, inventive, shrewd and beautiful
- **Mind** – always functions as a whole p. viii
- perceiving = thinking
- reasoning = intuition
- observation = invention p. viii
- **seeing** – an entirely subjective imposition of shape and meaning upon reality; “Vision is not a mechanical recording of elements but the grasping of significant **Structural Patterns** p. ix

* “vision is not a mechanical recording of elements but the grasping of significant **Structural Patterns** p. ix

Question: Structural Patterns as in Structuralism? p. ix

Gustaf Britsch – inspired **Henry Schaefer-Simmern**; Henry 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. The **Perceptual Principles** revealed in the gestalt experiments were also manifest genetically p. ix

Author - “the study of **Art** is an indispensable part of the **study of Man**” p. ix

- “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” p. ix

Chapter 1 – Balance

The Hidden Structure of a Square

Question: How is seeing done? Not via intellect (the results are not obtained via abstract concepts) or emotion (emotion is a consequence versus an instrument of discovery). p. 1

Visual Judgments – they are immediate and indispensable ingredients of the act of seeing itself p. 2; seeing something means assigning it a place in the whole; a location in space, a score on the yardstick of size or brightness or distance

Tension – is not a supplementary contribution of intellect or fancy p. 2; tension has a magnitude and a direction; it may be described as a **Psychological Force** p. 2

Induced structure – an integral element of what is immediately perceived p. 3; the disk shows an inner tension in its relation to the surrounding square; the center is part of a complex hidden structure; the tension has a magnitude and direction, a '**psychological force**';

has

an induced structure with an **invisible focus of power** for outside the square outline p. 3
the disk is influenced also by the diagonals of the square as by the cross formed by the

central vertical and horizontal axes

- the center is established by the crossing of these 4 main structural lines p. 3
- Wherever the disk is located, it will be affected by the forces of all the **hidden structural factors**. The relative strength and distance of these factors will determine their effect in the **total configuration of forces** p. 3
- the disk is influenced by **diagonals of square** and by cross formed by central vertical and horizontal axes p. 4
- this **visual pattern** is really a **field of forces**, with lines acting as Ridges; these are centers of attractive and repellent forces p. 4
- **the middle point** pulls from all directions and therefore balance each other
- this disk at the center position makes it look at rest; all the forces balance each other
- An unpleasant effect is produced by locations at which pulls are so **equivocal** and **ambiguous** that the eye cannot decide whether the disc is pressing in any direction. The wavering makes the **Visual Statement** unclear and interferes with observer's perceptual judgment p. 4

Wertheimer – an angle larger or smaller than 90 degrees will be seen as a right angle when exposed briefly p. 5

Frame of Reference – helps to determine the **Balance Value of any Pictorial Element** p. 5

Visual Pattern – is really a **Field of Forces** which are dynamic p. 5

Seeing – is the **Perception of Action** p. 6

Dead Center – is not dead; the middle point pulls from all directions and balance each other p. 6; the **balance of the middle point pulls** is alive with tension

Psychological Forces – the pulls in the disk exist via experience of person p. 6

Physical Forces – the pulls have a point of attack, direction and intensity, all qualities defined by physicists as physical forces p. 6

Gestalt Psychologists – the cerebral area contains a field of electrochemical forces; these interact freely p. 7

Wertheimer – his experiments on illusory movement concluded that this affect was the result of "a kind of physiological short-circuit" in the brain center of vision; he suggested that local brain stimulations acted upon each other dynamically p. 7

Author – the forces experienced when looking at **Visual Objects** are the **psychological counterpart and equivalent of physiological forces** active in the brain center of vision. Although these processes occur physiologically in the brain, they are experienced psychologically as though they were properties of the perceived objects themselves p. 7

- psychologically, our **Visual Forces** as real as anything else we perceive or feel or think p. 8
- the term **Illusion** is useful only when a difference arising between the physical and the psychological world makes us commit a mistake in dealing with physical things p. 8
- the forces that pull disk are **perceptually and artistically** they are real p. 8

Visual Patterns – ambiguity regarding these patterns can result from contradiction between **Form Pattern** and **Location Pattern** p. 9

The location of the discs balance each other; they make for a symmetrically located pair that is at rest

a distance between these (discs and square) can be found where they repel each other because they are too close together; less stable position which conflicts with their symmetrical pairness;
the center disc is in a more stable position p. 9

* this example shows that a **Visual Pattern** should be considered with regard to spatial surrounding structure p. 9

Perception – the **Perceptual Effect of Location** we become concerned with the **Factor of Balance** or **Equilibrium**; in a work of art all elements must be distributed so a state of balance results

- **Question:** What is balance and why is it indispensable?

Balance – is the state of a body in which the forces act upon it compensate each other The definition is applicable to **Visual Balance** p. 9; every finite **Visual Pattern** has a fulcrum or center of gravity; the center of a pattern can be determined by trial and error p. 9

St. Michael Painting Weighing Souls – by the strength of prayer, one frail little nude figure outweighs 4 big devils p. 10; the difficulty is that prayer carries only spiritual weight and provides no visual pull; the square patch out of bottom of painting creates the weight that adapts the appearance of the scene and meaning p. 10

- **Slight deviations from the geometric center occurs for two reasons:**
 - the difference of “weight” between the top and bottom of visual object tends to push perceptual center upward
 - the interaction between the **pictorial pattern** and the **structured map of plan** may cause displacement of center of framed space p. 11
- in a work of art, the forces that have been balanced remain visible; this is the reason why motionless media (painting and sculpture) can represent life, which is action p. 11

Visual Balance – visual balance values of such factors as size, color, and direction often do not correspond to equal physical factors; in a painting, a physically unrelated object may counterbalance the asymmetrical position of a human figure p. 11

Pictorial Balance – why is pictorial balance indispensable? Visually and spiritually balance is the state of distribution in which everything has come to a standstill p. 12

- **Balanced Composition** – factors like shape and direction and location are mutually determined by each other p. 12
- **unbalanced composition** – looks accidental, transitory and invalid p. 12; since change is needed, the stillness of the work becomes a handicap

Perceptual Judgment – every act of **Perception** is perceptual judgments p. 12; any **Visual Quality** must be defined by its environment in space or time. A **Balanced Pattern** does this p. 12

Symbolic Disproportion – is compelling only because it is fixated by counterbalancing factors. Otherwise, the unequal size of the 2 figures would lack finality and therefore meaning p. 12

- **Disequilibrium** – can be expressed only by equilibrium just as discord can be shown only by harmony or separateness by unity p. 12

a. b. c. d. e.

a. figure is well balanced and the square rectangles of various sizes and proportions offer plenty of life, every element stays in its place p. 13

b. proportions based on small differences which leave eye uncertain; cannot tell what pattern is trying to say

c. irritating in its ambiguity; four lines are not long enough to assure eye they are unequal; pattern drifts in space without anchor p. 13

d. offers reassuring clarity (the background is black)

e. disequilibrium doesn't always render whole configuration fluid

Two Factors that Determine Balance: weight and direction; weight depends on location p. 14

Van Pelt – pointed out that in symmetrical arrangement of three arches the central one should be larger. It would look too weak if it had merely the size of the other two. A centrally located object assumes more importance than a lateral one p. 14

Author – an **Object** in the upper part of the composition is heavier than one in the lower; and location at the right side makes for more weight than location on the left; the **Lever Principle of Physics** – when applied to pictorial composition, the weight of a pictorial element increases proportionally to its distance from the center of balance

- **Pictorial Weighing** – does not occur in empty space, and other powerful factors of location will strongly interfere with the lever effect p. 14

Puffer – observed that vistas which lead the glance to distance space, have great counterbalancing power; there seems to be a lever effect in the depth dimension – the farther away from the observer objects are located in **Pictorial Space**, the more weight they carry; a distance object appears relatively large for reasons of **Perspective** p. 14

Weight – depends also on size; the larger object will be the heavier. As to **Color**, red is heavier than blue. Bright colors are heavier than dark colors. A black area must be larger than a white one in order to counterbalance it. This is due in part to the **irradiation effect** which makes a bright surface look relatively larger p. 14

Ruffer – he found intrinsic interest to be a factor of **compositional weight**; an area of painting may hold the attention by its formal complexity, intricacy or other peculiarity pp. 14-15

Perception – may be influenced by the observer's wishes and fears p. 15

Question: Is **Pictorial Balance** changed by the introduction of a highly desirable object or a frightening one? p. 15

Isolation – makes for weight; it is known as a means of emphasis p. 15

Shape and Direction – seem to influence weight. Regular shape in simple geometric forms, is probably heavier than irregular shape p. 15

- **Compactness** – the degree to which mass is concentrated around its center seems to produce the weight p. 15
- **Vertically Directed Forms** – seem to be heavier than **Oblique Forms**

Question: What about the influence of knowledge? In a picture, no knowledge on the part of the observer will make a bundle of cotton look lighter than a lump of lead similar in appearance. This problem appears in **Architecture** p. 15

Mock and Richards - "a building may appear to stand unsafely on a base of glass. The expectation is that we shall be able to understand at a glance why a building stands up is a survival of the handicraft + age that disappeared even in the days of **William Morris**" pp. 16-17

Technical – the technical understanding of the craftsman, who deals with methods of construction and strength of material. This data cannot be obtained by looking at the finished building p. 17

- **Visual Comprehensibility** – the beholder of the building must be able to understand the distribution of the visual weight and the relations between load and carrier. Technical information or misinformation is not likely to influence visual evaluation. What counts are **Stylistic Conventions**, which oppose change everywhere in the arts (e.g. very conservative) p. 17
- Resistance to the **Visual Statistics of Modern Architecture** owes to this **Conservatism**. The purely **Visual Discrepancy** between a large mass and a thin supporting pole is in no way touched by the assurance of the architect that the thing will not collapse. Wherever the architect abandons the appearance of the solid cube or wall and reveals the skeleton of slender girders, style catches up with technology and the eye ceases to have trouble p. 17

Direction – direction is indicated by movement p. 19; direction and weight determine **Balance**. **Location** influences **Direction and Weight** p. 17; the weight of any compositional element in the neighborhood and thus impose direction upon them p. 17

Elongated Forms – their spatial position deviates from the vertical or horizontal only by a small angle; show a pull toward that structurally strong direction. The shape of **Pictorial Objects** creates **Axes** and these **Axes** create directed forces p. 17

Compositional Triangles – forge groups of figures into upward-moving pyramids p. 18

Axes – the axes produced by shape allow for movement in two opposite directions p. 18

Ellipse – is directed upward as well as downward p. 18

Visual Patterns – a shape may be seen as directed to the right rather than to the left because of the tendency to read **Visual Patterns** from left to right p. 18

- If one side of the shape is anchored to the frame and the other ends in free space, the force will move toward the free end p. 18

Subject Matter – also creates directed forces. **Spatial Directions** created by the glance of actors are **Visual Lines** on the stage p. 18

Author – weight through color may be counteracted by **weight through location**. The direction of shape may be balanced by movement toward a center of attraction p. 19

Balance – may be obtained between events that occur at the same time p. 19; often centered in one or more **Modal Elements** or **Focuses** that carry the main weight; some are dominated by a powerful theme surrounded by a subservient "background".

- Ex: Certain works by **Klee, Matisse, Braque**, the cubists and impressionists – the balance of the whole may be maintained by a large number of minor centers, all of similar strength p. 19

Speech – creates visual weight at the place from which it issues p. 19

Top and Bottom – the lower part of a **Visual Pattern** demands more weight p. 20

- **Gravitation** – is at the root of **asymmetry in the vertical dimension**; Man's experience in handling physical objects teach him that bottom heaviness assures stability; this knowledge affects the observer when **Visual Balance** is evaluated p. 20
- **Compensation** – which keeps the lower part of the pattern from looking too light or too small, is needed everywhere, except for the structurally strongest shapes, which resist the distortions of angles p. 20
- Regarding **Tops and Bottoms**, it cannot be maintained that general artistic practices make **Patterns** look heavier at the bottom pp. 20-21
 - By lowering the center of gravity, the painter / sculpture adapts his work to the **asymmetry of physical space**. This practice is not universal. It goes with certain styles only p. 21
 - **Motion-Picture Camera** – refuses to keep its **line of sight** parallel with the ground, presenting views in which the **gravitational axis** is freely displaced and the lower part of the picture not more crowded than the upper p. 21
 - **Modern Dance** – stressed the weight of the human body which classical ballet has tried to deny; they follow the general trend in moving from realistic pantomime to abstraction p. 21
 - **Modern Abstractionists** – have maintained their works can be turned around freely because they balanced in all spatial orientations p. 22

Right and Left

Psychology of Visual Balance – art historian **Wolfflin** called attention to fact that pictures change appearance and lose meaning when turned into their mirror images. Why? **Pictures are Read** from Left to Right and the sequence changes when picture is inverted. The **Direction of the Diagonal** running from bottom Left to top Right is seen as ascending, the other descending. **Pictorial Objects** look heavier on the right side of the picture p. 22

Gaffron – whatever appears in the left side of the picture assumes greatest importance. The left side of the stage is the strong one p. 29 **Note to Myself: this corroborates Kress and Van Leuween's work; use In Dissertation;**

- If an actor comes on the stage from the Right, he is noticed immediately, but the focus of the action lies at the Left if it doesn't occupy the center; Why? Empiricists would cite the reading of pictures from Left to Right as a habit taken over from reading books left to right p. 23
- the dominance of the Left brain cortex which contains the higher brain centers for speech, writing and reading in a right-handed person = "there exists a difference in our awareness of **Visual Data** in favor of those which are perceived within the right visual field" p. 24

Stanley Cobb – right became the symbol of rectitude and dexterity and things on the Left were sinister p. 23

Balance and the Human Mind

Author – Balance is a means of eliminating ambiguity and disunity p. 24

- **Question:** Why is balance desirable?
 - **Hedonistic Theory** answers because it is pleasing and satisfying.
 - **The Psychology of Balance** answers that the tendency to explain visual reactions by kinesthetic ones is not limited to just psychology p. 24;
 - The **Psychology of Motivation** states that all physical activity can be defined as a striving for balance.
 - **Gestalt theorists** have concluded that every psychological field tends towards the simplest, most balanced, most regular organization available.
 - **Freud** interpreted his pleasure principle as the belief that the course of psychical events is stimulated by an unpleasant tension and takes a direction to reduce tension p. 25
 - **L.L. Whyte** – defined "**unitary principle**" underlying all natural activity where symmetry decreased in isolable systems p. 25

Motivation – defined by psychologists as “**the disequilibrium of the organism** which leads to action for the **restoration of stability**” p. 25

Freud – there is an inherent tendency to go back to a formal state; his “**economy principle**” states that man constantly tries to expend as little energy as possible. Man is lazy by nature p. 25

Author – a human being finds his fulfillment not in inactivity but in doing, moving, changing, growing, going ahead, producing, creating, exploring p. 25

Balance Conveys Meaning

Compositional Balance – reflects a tendency that is the mainspring of all activity in the universe p. 26

- the emphasis of the **Work of Art** is not on balance, harmony, unity, but on a pattern of directed forces that are being balanced ordered and unified p. 26

Work of art – a statement about the **nature of reality**. The whole determines place, character and magnitude of each force and a unified structure results. The **Work of Art** is the necessary and final solution of the problem of how to organize a reality pattern of given characteristics p. 26

Author – regardless of whether the work is representational or abstract, only the content can determine which pattern is to be chosen and subjected to the business of **pictorial organization or composition** p. 27

Davinci – in a good work of painting, “the distribution or arrangement of figures is devised in agreement with the conditions you desire the action to represent” p. 27

Madame Cezanne in a Yellow Chair – the composition as a whole helps to define the direction of the movement p. 30; the hands are through slightly forward in potential activity. The head contains activity in the watchful eyes and the **dynamic symmetry** of the quarter profile p. 30

- **Work of art** – exhibits the wealth of dynamic relationships that a work of art contains; these relationships establish the balance of rest and activity described as the theme or content of the picture p. 31
- the **observer's knowledge** of what a seated middle-aged woman signifies contributes strongly to the deeper meaning of the work
- **Ambiguity** confuses the artistic statement because it leaves the observer on the edge between two or more assertions that do not add up to a whole. As a rule, **Pictorial Counterpoint is hierarchic** – it sets a dominant force against a subservient one p. 31

Chapter Two – Shape

Seeing – is essentially a means of practical orientation p. 32

Vision as Active Exploration

Light – is emitted or reflected by objects of the environment. The eye lenses project images of these objects upon the retinas which transmit the message to the brain p. 33; **Vision** is anything but a **mechanical recording device** p. 33

Plato in Jimaeus - “the gentle fire that warms the human body flows out through the eyes in a smooth and dense stream of light. Thus a tangible bridge is established between the observer and the observed thing, and over this bridge the impulses of light that emanate from the object travel to the eyes and thereby to the soul” p. 33

T.S. Eliot - “And the unseen eyebeam crossed, for the roses had the look of flowers that are looked at” p. 33

Vision – differs from what the photographic camera does by being active exploration by / versus then passive recording. **Vision is highly selective**, not only in the sense of concentrating on what attracts attention but also in its way of dealing with any one object p. 33

Question: What do we see when we see?

Grasping the Essentials

Seeing – means grasping a few outstanding features of the object; a few selected marks are able to conjure up the recollection of complex things p. 33

Lorenz – geometric regularity of form and movement, pure notes and unmixed spectral colors are the typical qualities of **Perceptual Releasers**; **Perceptual Features** can stand for the whole and are powerful p. 34

Author – a few outstanding features determines the identity of a perceived object and create an integrated pattern, which is also influenced by a number of secondary qualities p. 34

Perceptual Concepts

Perception – starts with the graspings of striking structural features p. 34; started with the recording of individual cases, whose **common properties** could be realized only by the creatures capable of forming concepts intellectually p. 25

Psychologists – refer to the **Perceptual Process as Generalization**

Theory of Perception – no longer possible to think of **Vision** as proceeding from the particulars to the general. **Structural Features** are the primary data of **Perception**;

- **Structural Features** – the overall “SF” of which the **Percept** is thought to consist are not furnished explicitly by any particular Stimulus **Pattern** p. 35

Author - “the **Stimulus Configuration** seems to enter the **Perceptual Pross** only in the sense that it evokes in the brain a specific pattern of general sensory categories which “stands for” the stimulation in a way similar to that in which, in a scientific description, a network of general concepts is offered as an equivalent of a **Phenomenon of Reality** p. 35

- “...only to extent to which the **confused panorama** can be seen as a configuration of clear-cut directions, sizes, geometric shapes, colors, can it be said that is actually perceived” p. 36
- **Perceiving** – consists in the formation of “**perceptual concepts**” p. 36
- **Vision** deals with the raw material of experience by creating a corresponding **pattern of general forms** which are applicable not only to the individual case at hand but to an infinite # of other cases p. 36
- **Concept** – there is a striking similarity between the elementary activities of the senses and the higher ones of thinking or reasoning p. 36
- recent **Psychological Thinking** encourages us to call **Vision** a creative activity of the human mind p. 37
- **Eyesight is Insight** p. 37

What is Shape?

Shape – is one of the essential characteristics of objects grasped by the eyes. It refers to the **Spatial Aspects** of things, excluding location and orientation. Shape concerns the **Boundaries of Masses** p. 37

- The look of the object is never determined only by the **Image** that strikes the eyes. Knowledge is wedded to **Observation**

Visual Conception – the **Internal Shape** of things is often present in **Visual Conception**; various conceptions of what make up the **Visual Shape of Things** are reflected in the arts

- **Western Style of Painting** – created by the Renaissance, restricted shape to what can be seen from a **Fixed Point of observation** p. 37
- **Egyptians, American Indians, Cubists** – ignored the above restriction p. 37

Spatial Features – the true shape of an object is constituted by its essential spatial features p. 38

The Influence of the Past

Author – The experience of the present moment is never isolated. The new image gets its contact with the memory **Traces of shapes** that have been perceived in the past p. 38

Ambiguous Shapes – the **Perception and Reproduction of Ambiguous Shapes** was shown to be subject to influence by verbal instruction; the most recent image is an indivisible part of the huge stock of images stored in our memory p. 39;

- if a person has seen a shape repeatedly, hundreds of times, the shape may nevertheless remain invisible when it appears in a new context p. 40
- **Camouflage** – examples of camouflage demonstrate that when the inherent structure of the **Stimulus Pattern** vigorously contradicts that of a previously learned figure, even an overdose of past experience will be unable to exert its effects p. 40
- **Memory** – the influence of memory is particularly great when a strong personal need makes the observer want to see objects of given **Perceptual Properties** p. 40

Gombrich - “The greater the biological relevance an object has to us the more will we be attuned to its recognition” p. 40

Author - “The stress exerted by needs on **Perception** is used by psychologists in the **Rorschach Test**” p. 41

Seeing Shape

Question: How can the spatial features, which represent shape, be described? Determine the spatial locations of all the points that make up these features p. 41

Author - “In no way can the nature of the statue's shape be gleaned from the measurements, which must be applied before the result is known” p. 41

- the normal eye grasps shape immediately, it seizes on the overall **Law of Construction** p. 43

Law of Visual Perception – by gestalt psychologists; asserts that any stimulus pattern tends to be seen in such a way that the resulting structure is as simple as the given conditions permits p. 44

Simplicity

Simplicity – defined by the effect certain phenomena have upon the observer, and its meaning may be limited to such subjective reactions p. 44

- **Spinoza** - “we firmly believe that there is order in the things themselves even though we know nothing about these things or their nature”
- simplicity may be defined by the **Degree of Tension** that a phenomenon creates in the experience of the observer and in correlated processes occurring in his brain p. 44
- **nature of simplicity** – it is a property of **Physical Patterns** in themselves p. 44
- when **work of art** is praised for “**Having Simplicity**”, it is understood to organize a wealth of meaning and form in an overall structure that clearly defines the place and function of every detail in the whole p. 45
- **Kurt Badt** - defines **Artistic Simplicity** as the wisest ordering of the means based on insight into the essentials, to which everything else must be subservient” p. 45
- **Rembrandt** – for simplicity's sake, he abandoned the use of the color blue because it did not fit his chords of golden brown, red, ocher, and olive green p. 45
- **Durer** – his graphic technique achieved simplicity through a unification of means; in a mature work of art, all things seem to resemble each other p. 46

Author - “The unity of the artist's conception leads to a **Simplicity** that shows its virtues only when it masters the abundance of existence rather than escapes to the **Poverty of Abstinence** p. 46

Law of Parsimony – or the **Principle of Economy** in scientific method demands that when several hypotheses fit the facts, the simplest should be chosen

- **the Principle of Parsimony** is valid aesthetically in that the artist must not go beyond what is needed for his purpose p. 46

Kracauer – notes that in photography highly defined **Compositional Form** falsifies the medium, which is the joint product of the organizing mind and physical reality

Artistic Shape – is made, whereas organic shape is grown p. 52; the shape of a seashell or a leaf is the external manifestation of the inner forces that produced the object pp. 52-53

Tendency to Simplicity – can exert itself undisturbed only in “**isolable systems**” p. 53

- **Interferences** - with the tendency to simplicity abound in nature p. 53

Organisms – are open systems, which constantly draw and give off energy;

- **Objects** or **bodies** may be considered as processes that we observe at some more or less constant stage p. 53

Simplification Demonstrated

Law of Visual Perception – any **Stimulus Pattern** tends to be seen in such a way that the resulting structure is as simple as the given conditions permit p. 54

Da Vinci – **distance** diminishes various parts so much as to leave nothing visible except the greater mass p. 54

Question: Why does the reduction make the beholder see a round shape? **Distance** weakens the stimulus to such an extent that the **perception mechanism** is left free to impose upon it the simplest possible shape – the circle p. 54

- The perceiving and remembering of a **Pattern** are not an isolated process. They are open to the influence of the innumerable memory traces p. 55
- With the passing of time, **memory traces** slowly fade out. This would be a **process of gradual simplification** through loss of articulate structure p. 55

The act of vision – involves the solution of a problem – the creation of an organized whole p. 55

Leveling and Sharpening

Author – **Elimination of Ambiguity** – makes for simplification

Wulf – regarding enhancement of factors of complexity regarding shapes, this tendency is called **Sharpening** versus **Leveling** (the elimination of complexity regarding shapes) p. 57

Leveling – characterized by such factors as the following:

- Unification
- Enhancement of symmetry
- Repetition
- Dropping of nonfitting detail
- Elimination of obliqueness p. 57

Sharpening – makes for subdivision, enhancement of differences, **stressing of obliqueness**.

Sharpening involves simplification when it helps to eliminate ambiguity p. 57

- **factors of leveling and sharpening** – frequently occur together in the same drawing p. 58

Stimulus Patterns – are sometimes related to the shape of objects the observer knows from previous experience p. 58

- By adapting new perceptual experiences to existing **memory traces**, the observer always simplifies his **total memory structure**.
- **Adaption** – to past experiences is therefore no exception from the general rule of simplicity p. 58

A Physiological Theory

Question: Whence this tendency to simplicity?

- The psychologist can offer a hypothesis only by analogy to what takes place under similar circumstances in the world of general physics p. 59
- When the stimulus is weak, the **tendency to simplification** will assert itself most effectively p. 59
- **The Tendency to Simplification** – will manifest itself in the way in which **subdivision of patterns** occurs p. 59

Subdivision – occurs according to simplest structure; it doesn't prevent the pattern from being perceived as a whole p. 60; subdivision is of the greatest biological value because on it depends the capacity to see objects p. 62

Patterns - both whole and parts are seen in all patterns; greater simplicity of the whole makes for greater unity. The simpler the parts, the more clearly they tend to stand out as independent entities p. 61

The Visual World – is made up of distinct units; what holds true for isolated figures must be applied to the entire **Visual Field** p. 61

Why the Eyes Tell the Truth

Goethe - "Erscheinung und entzweien sind synonym" or "what comes into appearance must **Segregate** in order to **Appear**" p. 62

Question: Why do our **Eyes** serve us well most of the time? "The man-made part of the world is fitted to human needs. The **Human Mind** and the **Physical World** follows the **Law of Simplicity** which means the outer appearance of natural things will be as simple as conditions permit p. 62

- **Simple shape enhances segregation** p. 62

Simple Shape – notably **Symmetry**, contributes to bringing about **Physical Equilibrium** p. 63

Vision – as a reflection of physical processes in the brain, is subject to the same basic **Law of Organization** as the things of nature p. 63

Subdivision in the Arts

Visual Arts Subdivision – an essential means of **Composition**, taking place at different levels, which in every **Work of Art** are Hierarchically **Organized** p. 63

Subdivision – presupposes some **Simplicity of Shape** in the units to be separated

- **the simplicity** of any part must be modified or weakened sufficiently to make the part dependent on and integrated with its **Context** p. 65

What is a Part?

Part – any section of a **Whole** when dealing with something homogeneous, which is rare.

Subdivided Structures means that parts are defined by the structure itself p. 65

- There is a difference between **Sections** and **Parts**
- **Sections** – are not arbitrary because they are determined by its very **Structure**; a **Part** is a **Section** of a **Whole** that shows some measure of separation from its environment p. 65

Genuine Parts – sections that represent a segregated subwhole within the **Total Context** p. 66

Not Genuine Parts – sections that are segregated only in relation to a limited **Local Context** and not to the Whole p. 66

Rules of Grouping

Author – relationships between parts depend on the structure of the whole p. 66

Rules of Grouping – defined by Wertheimer; refer to factors that cause some parts to be seen as belonging more closely together than the others p. 67

Principle of Similarity – the degree to which parts of a **Pattern** resemble each other in some perceptual quality will help determine the degree to which they are seen as belonging together p. 67

Similarity of Size – difference of size with squares has a grouping effect p. 67

Wertheimer – he defined the “**Rule of Proximity or Nearness**”; also called “**Similarity of Location**” p. 67

Author – elements linked by **Similarity** also tend to lie in the same plane;

- **Matisse** – moderated the depth effect of compositions by applying the same color to one object placed in foreground and another farther back, thus safeguarding the unity of the picture in the frontal plane p. 67

Similarity of Speed – facilitates **depth perception** p. 67

- Similar units **Form Patterns**. The simpler the pattern, the more compelling the grouping of the units will be p. 70
- **Subdivision and Grouping** – are reciprocal concepts p. 70

Consistent Shapes – in the grouping principle of consistent shape deals with the intrinsic similarity of a visual object p. 71

- The more consistent the **Shape of a Unit**, the more readily it will detach itself from its environment p. 71

Harmonic Progression in Music – the problem consists in maintaining the “horizontal” unity of the melodic lines against the “vertical” harmonic coherence of the chords p. 71

Similarity of Location – applies not only when units lie close together but also when they occupy similar symmetrical positions in the whole p. 72

- The limiting case of Similarity of Location is contiguity. When there are no intervals between units, a compact visual object results p. 72
- a visual object will be the more unified the more strictly similar its elements are in such factors as colors, brightness, speed, and direction of movement

Examples From Art

Similarity of Location – in the **Visual Arts** it will make for the grouping of objects that appear close together p. 73

Picasso's Seated Woman – the similarity of the **Geometric Shapes** used emphasizes unit of the whole; **Similarity of Orientation** serves to subdivide the picture into 2 main subjects – **shape and color** p. 73

- **Shape** – the circular units are distributed in such a way that they emphasize its **Pyramidal Shape** p. 73
- **Color** – supports the subdivision produced by orientation and shape but at same time adds variety to the composition by counteracting these structural tendencies p. 73
- the vertical chain of the yellows gives unity and distinction to the woman

Rules of Grouping – serve not only the purely formal organization of compositions but also support their symbolic meaning p. 73 **My comment: Important!**

Similarity of Color – using color similarities for the knitting together of separate units (or using shape, size or orientation) is important in “diffuse compositions” which need unification because they consist of isolated elements p. 74

Rules of Similarity – can create unity among irregularly distributed items. The factors of “consistent shape” always applies to a global form pattern p. 74

The Factors of Consistent Shape – can create connections across fairly large intervals as long as the given units indicate strongly enough of a common pattern pp. 74-75

Visual Counterpoint – builds the unity of the whole out of a rich network of attractions and repulsions p. 75

The Structural Skeleton

The Shape of a Visual Object – does not consist only of its outline p. 78

Delacroix – said that the first thing to grasp of any object in order to make a drawing of it is the contrast of its principle lines, thereby producing a **Structural Skeleton** pp. 78-79

- The spontaneous organization of triangles follows the **Law of Simplicity** p. 79; The identity of each triangle depends on its **Structural Skeleton** which consists primarily of **the Framework of Axes** p. 79

Structural Skeleton – establishes the identity of a pattern; identity will still be recognized without difficulty as long as the structural skeleton of the image corresponds to the **Visual Concept** that the observer has p. 80

Author – amongst the various discussions regarding art, artist's find the most disturbing is that the understanding of a work of art is entirely subjective p. 80

- "I have discussed **Visual Phenomena** that are essentially independent of individual differences. **Simplicity** was defined in objective terms, as was **Subdivision and Grouping**" p. 81
- "In the arts, however, the elementary form patterns carry the **Core of Meaning**" p. 81

Chapter 3 – Form

Author – the words **Shape** and **Form** do not always mean the same thing p. 82

- this chapter deals with **Shape** as the spatial aspects of appearance
- **Content** – is not identical with subject matter; in the arts it serves as Form for some content p. 82
- **Representation** – involves a comparison between the **Model Object** and its **Image**. The representation of objects by **Visual Patterns** is one of the form problems encountered by most artists p. 82
 - **Question:** What conditions must be observed to make an image recognizable? p. 82

Change of Orientation

Orientation of an Object – is not an absolute but a relative phenomenon p. 83 **Vision** is influenced by 3 such frameworks, by the position of the **Object** in relation to:

1. the **structural skeleton** of the surrounding **Visual World** p. 83
2. the **brain field** on which the image is projected
3. The **structural framework** of the observer's body as perceived kinesthetically by muscular sensations and the organ of equilibrium in the inner ear. In the **Visual World**, the dominant axes establish a **Framework of Orientation** p. 83

Work of Art - "the orientation of any unit is determined essentially by the main axes of the work, by the verticals and horizontals of the picture frame. Within the composition, there are often obliquely oriented subwholes that act as local frames of reference in their own right" p. 84

As a Rule – the spatial orientation of units in a work of art is determined by a number of different influences

Oblique position – produces a strongly dynamic effect; the Cubists and Expressionists gave violent action to their landscapes by rendering the vertical dimension of buildings, mountains or trees as piles of oblique units p. 85

- a **Tilt** produces an actual change of shape when no on axis of the pattern is strong enough to prevent its replacement by another p. 85

Things Upside Down

Property of Triangularity p. 86

Question: Why does **Change of Orientation** produce change of shape? The brain field contains a predominance of one orientation, which corresponds to the **Vertical**. Vertical orientation is distinguished in physical space because it coincides with the pull of gravity; the phenomenon is not due to inherent properties of the **Visual Mechanism** but to our observations of the physical world p. 87

- Young children pay little attention to differences in orientation. **Orientation** begins to play a role in the 6th year of a life p. 87; a unified spatial framework develops only gradually with children p. 88
- indifference to orientation has been observed in adult primitives p. 88

Projections

New Orientation – it was found that under certain conditions this new orientation will bring forward a new structural skeleton that gives the object different character p. 88

- a **flat object – orthogonal projection** – under this condition, the object and its retinal projection have roughly the same shape p. 89

Constancy of shape – the experience of a 3D cube of unchanging shape p. 90

Visual Concept of Solids

The Visual Concept of an object derived from perceptual experiences have 3 important properties:

1. it conceives of the object as being 3D, of constant shape, and not limited to any particular projective aspect p. 90
2. **Imagery** and **Visual Conception** are not the same thing p. 91
3. a **person's visual concept** of an object is generally based on the totality of observations from a # of angles; Intellectual knowledge sometimes helps form a visual concept, but only to the extent to which it can be translated into visual attributes p. 91

The **visual concept** of anything that has volume can be represented only in a **3D Medium**, such as sculpture or architecture. If we wish to make pictures on a **Plane Surface** all we can hope to do is produce a translation p. 91

- The all-aroundness of the visual conception cannot be reproduced directly in a plane p. 91

Which Aspect is Best?

Cube – its orthogonal projection of any one of the six surfaces is distinguished. This distinction is based on the **Law of Simplicity**, because the distinguished projections are the ones that produce patterns of the simplest shape p. 91

- our visual concepts of many objects are characterized by **Structural Symmetries** p. 91
- The elementary task of depicting on a surface the main properties of an object's shape is a difficult one p. 92

The Egyptian Method

Regarding the **wall paintings** and **Reliefs** of the Egyptians and the drawings of children – their work consists of choosing for each part of an object or combination of objects the aspect that best suits the pictorial purpose p. 93; when similar methods were adopted by adult artists of our own time and culture, some appreciation of their artistic validity began hesitantly to develop p. 93

Egyptians, Babylonians, Greeks, Etruscans – all used a similar style of representation, including avoided foreshortening because it was too difficult. Schaefer disposed of this argument p. 95

Egyptians – in order to express lifeless rigidity, they had recourse to a procedure that created a much more lifelike effect p. 95

- Used **Method of Orthogonal Projection** because they preferred it versus not having a choice. This method allowed them to preserve the characteristic symmetry of chest and shoulders and the front view of the eye in the profile face p. 95

Pictorial Representation – is based on the **Visual Concept of the total 3D Object**; the procedure the photographic camera – is not truer to that conception than the one used by the Egyptians p. 95

- “work from the model is much of the time limited to preparatory sketches” p. 95

The Structural Skeleton of a Visual Conception – seems to lead to disturbing consequences p. 96

Perspective Representation – it makes things look right by doing them wrong. The Egyptian or the child accounts for the squareness he sees in reality with an actual square in his picture. In this way he greatly strengthens the perceptual impact of the shape p. 97

Distorted stimulus pattern – depth effect is reduced p. 97

The power of all visual representation – derives from the properties directly inherent in the medium p. 97

Foreshortening

Author – a particular aspect or projection of an object is intended to represent the whole. But it must fulfill 2 conditions:

1. it must indicate that in itself it is not the complete thing, but only a part of something larger p. 97
2. the structure of the whole it suggests must be the correct one

Rule in Perception – the shape of the perceived aspect (projection) is taken spontaneously to embody **the law of the whole volume** p. 97

Shape of Projection – embodies the law of the whole p. 98

Foreshortening – can be used in three different ways:

1. It may mean that the projection of the object is not **Orthogonal**; its visible part does not appear in its full extension but is projectively contracted p. 99
2. a picture is foreshortened when it does not provide a characteristic view of the whole
3. geometrically, every **Projection** involves **Foreshortening**, because all parts of the body that do not run parallel to the projection plane are changed in their proportions or disappear partly or completely p. 99

Projective Contraction – always involves the oblique position in space p. 99

Max Wertheimer – used to call the **Facade (Dingfront)** of the object, if it is seen as turned and the given projection appears as a deviation from that “facade” p. 99

Obliqueness – gives visual evidence that the object has volume; that different parts of it lie at different distances from observer. At the same time, it retains direct perception of the **Structural Pattern** from which the **Projection Deviates** p. 99

Question: When to call a **Pattern Foreshortened?** When it is perceived as a deviation from a structurally simpler pattern, from which it is derived by a change of orientation in the depth dimension p. 99

- the simpler the shape of an object the more it resists being **perceived 3Dimensionally** – it tends to look flat p. 99

Contractions – along symmetry axes must be handled with caution. The effect of a face seen from above or from below is much more violent than a view from the side. **Shape** and **relative location of parts** deviate more thoroughly from the basic visual conception, but also because the symmetrical view looks so “frozen”. The front view has a dangerous tendency to look like a squashed creature. The same holds true for symmetrical birds-eye and worms-eye views of whole figures p. 100

Ernst Barlach – German sculptor; “Sculpture is a healthy art, a free art, not afflicted by such necessary evils as **Perspective, Expansion, Foreshortening** and other **Artificialities** p. 102

Overlapping

Overlapping (Superposition) – device to create deviation from underlying **Visual Conception** p. 102; occurs when one unit partly hides another that lies behind it p. 102

- Requirements for adequate perception are that the units:
 - separate from each other
 - belong to different planes p. 102

* In examples of overlapping, one unit is partly covered by the other. The curtailed unit must not only be made to look incomplete, but it must also ask for the right kind of completion

Often the rearrangement of organic parts occurs through **projective overlapping**. Often the organic unity of the body can be reconstructed only by knowledge p. 103

The law of consistent shape – the work of the great masters reveals how much care they take to keep the underlying visual concept recognizable in the projection p. 103

What Good Does Overlapping Do?

Projective Representation – threatens visual clarity and impact; for centuries the West has taken for granted that only the **Projective Method** enables the artist to represent reality as it actually is p. 104

Overlapping – intensifies the formal relationship by concentrating it within a more unified pattern p. 105; The intimate union achieved by overlapping = it is togetherness as interference through **Mutual Modification**. By renouncing the clarity of juxtaposition, the artist accomplishes a more subtle and more dramatic interpretation of communion. He shows the tension between the conflicting tendencies involved in **Social Intercourse** p. 105

- **Overlapping** – establishes a hierarchy by creating a distinction between dominating and submissive units. A scale of importance leads from foreground to background p. 105