Paul Klee Notebooks
Volume 1
The thinking eye

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"Shifting standpoint and viewpoint."

Several viewpoints and connection between stages 1, 2, 3, 4 (adj. lb.)

Gives: an "active harmony" (off-centre) and balance through countermovement.

1940 x 1: Eyes in the landscape. Oil.
Variable point of view combined with static-dynamic synthesis.
I shall begin with a brief clarification of concepts. First, the meaning of analysis. The term is most frequently applied to chemical analysis. A certain compound, for example, is widely sold because of its excellent effects. The manufacturer's commercial success arouses the curiosity of other manufacturers and they send a sample of the product to a chemist for analysis. He must proceed methodically in order to break down the product into its ingredients. To solve the riddle.

In another case a fluid or beverage is harmful to the health. Again the chemist is called in to discover the harmful ingredients. In both cases the given is a whole consisting of various unknown parts; the problem is to find the ingredients.

In our business the motives for analysis are naturally different. We do not undertake analyses of works because we want to copy them or because we suspect them. We investigate the methods by which another has created his work, in order to set ourselves in motion. This approach should save us from regarding a work of art as something rigid, something fixed and unchanging. Exercises of this kind will guard us against creeping up to a finished product hoping to pick off what is most striking, and to make off with it.

One particular kind of analysis is the examination of a work with a view to the stages of its coming into being. This kind I call the analysis of 'genesis'. The first book of Moses, concerned with the creation of the world, is called Genesis. It tells what God created on the first day, on the second day, etc. The total world that surrounds us is articulated in terms of history.

We are artists, practical craftsmen, and it is only natural that in this discussion we should give priority to matters of form. But we should not forget that before the formal beginning, or to put it more simply, before the first line is drawn, there lies a whole prehistory: not
only man's longing, his desire to express himself, his outward need, but also a general state of mind (whose direction we call philosophy), which drives him from inside to manifest his spirit in one place or another. I emphasise this point to avoid the misconception that a work consists only of form. But what must be stressed even more at this point is that the most exact scientific knowledge of nature, of plants, animals, the earth and its history, or of the stars, is of no use to us unless we have acquired the necessary equipment for representing it; that the most penetrating understanding of the way these things work together in the universe is useless to us unless we are equipped with the appropriate forms; that the profoundest mind, the most beautiful soul, are of no use to us unless we have the corresponding forms to hand.

Here we must forget about the isolated stroke of luck which may enable the dilettante just once to produce a successful work which puts the professional to shame. After these general preliminaries, I shall begin where pictorial form has to begin; with the point that sets itself in motion.

11. Ways to form, how form comes into being, ways to the basic forms
Survey and orientation in regard to ideal formative elements
Essence and appearance of the formal elements
Regular and irregular projection
Measure and weight. Structural formation
Elements of a theory of structure. Rhythms and rhythmic structures
1. Line: active, middle, passive

Shortly after application of the pencil, or any other pointed tool, a (linear-active) line comes into being. The more freely it develops, the clearer will be its mobility [1].

But if I apply a line, e.g. the edge of a black or coloured crayon, a plane is produced (at first and when the freedom of movement is very limited) [2].

If we had a medium that made it possible to move planes in a similar way, we should be able to inscribe an ideal three-dimensional piece of sculpture in space [3].

But I am afraid that is utopian.

For the present then let us content ourselves with the most primitive of elements, the line. At the dawn of civilisation, when writing and drawing were the same thing, it was the basic element. And as a rule our children begin with it; one day they discover the phenomenon of the mobile point, with what enthusiasm it is hard for us grown-ups to imagine. At first the pencil moves with extreme freedom, wherever it pleases.

But once he begins to look at these first works, the child discovers that there are laws which govern his random efforts. Children who continue to take pleasure in the chaotic are, of course, no artists; other children will soon progress towards a certain order. Criticism sets in. The chaos of the first play-drawing gives way to the beginning of order.

The free motion of the line is subordinated to anticipation of a final effect; cautiously the child begins to work with a very few lines. He is still primitive.

But one can’t remain primitive for long. One has to discover a way of enriching the pitiful result, without destroying or blurring the simple, intelligible plan. It becomes necessary to establish a relation between things of first importance and those which are subsidiary.
From point to line. The point is not dimensionless but an infinitely small planar element, an agent carrying out zero motion, i.e., resting. Mobility is the condition of change. Certain things have primordial motion. The point is cosmic, a primordial element. Things on earth are obstructed in their movement; they require an impetus. The primordial movement, the agent, is a point that sets itself in motion (genesis of form). A line comes into being. The most highly-charged line is the most authentic line because it is the most active.

In all these examples the principal and active line develops freely. It goes out for a walk, so to speak, aimlessly for the sake of the walk.

Dynamic movement. The point seen in dynamic terms, as an agent.

Simple linear motion, self-contained. Free line a-b [1].
Free line a-b, companion line a₁-b₁. (The melody in Fig.1: accompanied) [2, 3, 4, 5].

Free line making detours [6, 7, 8, 9].
Two 'interpenetrating' lines

Two secondary lines, moving round an imaginary main line [10, 11, 12, 13]

Individual-individual, connected by rhythmic articulation
Active line
This new line on the other hand

is short of time, wants to get to 1, then to 2, then to 3, etc. as quickly as possible. More like a series of appointments than a walk. This is shown by the straight stretches. But both the free and the hurrying line are purely active types. The linear tension of the straight stretches (most active line) is discharged between the points of tension lying on the path. (Dualism — static. The straight lines are the quintessence of the static.)

Neither line nor plane, but some sort of middle thing between the two. At the beginning it is linear, the movement of a point; it ends by looking like a plane. A medial line: planar effect obtained by circumscribed lines.

The line determined by few points. Time is of the essence. In these examples the hurrying line circumscribes plane figures like the triangle and square.

The energies that move a line are the result of forces working in different directions. Tension is connective.
A square stood on its corner moves into the dynamic realm, the tensions are diagonal.

The line circumscribes a circle and an ellipse

Taken as a line it has a soothing character and is without beginning or end. In an elementary sense (taken as an action of the hand) it remains a line, but when it is completed the linear impression inevitably gives way to a planar impression. The mobile character disappears (no one looking at the disc of the moon will take it for a merry-go-round and want to go for a ride). It is replaced by a sense of perfect rest, especially in the case of the circle.

Linear-medial, planar-medial in amplified, composite examples

The straight line (as a progression of points), quintessence of the static [1,2].
The circle (as a progression of points), quintessence of the dynamic [3].
In this case the character of the lines is wholly passive.

We still see lines, but not linear acts; what we see are linear results of planar actions. The line is not made but suffered. What is this? A square.

How did it come into being? What are the underlying tensions?

Linear movement displaced

to produce this effect

It came into being when a line entered into a relation of tension with a parallel line and discharged this tension. The most general cause therefore is a reciprocal tension forced into two dimensions. Result: a square, without accent, without emphasis. With horizontal emphasis, the square becomes

a recumbent rectangle

The linear movement rotated

to produce this effect

Plane formation by progressive linear rotation round a point. In linear-passive development the line operates as a planar element; and the impression therefore is planar. Any suggestion of a line is a left over, and is suffered (passive lines, active plane formation).

Linear-passive

The triangle came into being when a point entered into a relation of tension with a line and, following the command of its Eros, discharged this tension. The tension between point and line is characteristic of the triangle.

In a contrary direction to this brief account of the line runs the account of the plane contained in it. When the line was active, it created divisions into imaginary planes. Meanwhile the planar character thrust itself forward and became active when the line was designated as passive. The plane is pure bred, the tranquil element.

But if it becomes mobile, it takes on a linear character.

The farther the line A-B progresses, the thinner becomes the plane it describes in relation to its length, until in the end we may think of A and B as coincident, which takes us back to the active line.
The basic formal differences: active, middle, passive. We must distinguish three characters:

I. a linear character:

Linear-active – planar passive.
In 'active' the point goes to work, and the effect is linear in keeping with the point progression. Linear energies (tensions between active lines) result in passive planes, as side effects.

II. a middle character:

Middle character: point-line progression, planar impression.
In linear-'medial' (middle) the point progression leads indirectly, by way of the contour to a planar impression. Linear energies, 'medial' (middle) lines and planar effect.

III. a planar character:

Planar active - linear-passive:
In 'linear-passive' the line works as a planar element. Active plane, linear side effect (passive lines).
I. and III. are main, primary characters; II. (the middle ground) is intermediate, a hybrid.
The genesis of composite forms (Interpenetration or mesh)
A new type of structure arises when the parts do not lie side by side but overlap. The nature of such structure is characterised by the word interpenetration. One part penetrates the other, or the two parts penetrate each other. The relation between the parts: no contact, or contact in point, in line, in plane, in space. The situation of the parts: apart, grouped but separate, touching, or interpenetrating.

Side by side, or individual [1]. Circular planes with linear interpenetration (variant: interlocking) [2].

One-dimensional contact (contact in point or line, balanced or unbalanced) [3]. Composite form with planar contact. Two-dimensional contact in the plane. More or less interpenetration (planar penetration). The same loss from both sides [4].

Interpenetration and division of the common territory on the basis of the inner constructive relations and elementary formal factors [5]. Overlapping or mixture in the passive realm. Interpenetration as organisation of differences to form a unity [6].
Studies in movement:

Planar results from both kinds of linear progression [1]. Movement in one direction on the basis of a norm [2]. (Examine the way. Follow it back to the gentle start. Compare the action with the scene of action.)

The mesh of the planes indicates the body-content. Diagonals suggest intermediate positions [3, 4]. The mesh should be interpreted as a summation of all three kinetic processes (in the three directions). Tension between plane and counterplane is the quickest way to form bodies.

We must also consider the transparent representation of tone values. They suppress the values of frontal planes, so eliminating them and letting us look in freely. Then space is formed in space.

Analytic representation as partial action.

Tension between two directions of motion, plane and counterplane. The greater energy wins out.

Further possibilities: Penetration as polyphonic intersection of different planar structures and directions of motion. Structures of similar or dissimilar form, which stand close together, touch, interpenetrate, or intermesh, while one absorbs the other.
Linguistic analogy:

Active: I fell: The man felled the tree with the axe.
Middle: I fall: The tree fell with the man’s last stroke.
Passive: I am felled: The tree lay felled.

At the end of the exercise: Attempts at composition with these three elements.
L (linear territory) and P (planar territory) — here clarity prevails.
M (middle territory) blurred.

Crossed-out footnote: 'ML (medial-linear) and MP (medial-planar), new hybrid, secondary blurring.'

Preliminary remarks: The violin as finished form, as a work of art, as an independent personality (not a machine). The interpretations, for example, of Picasso, Braque, and the present-day Paris school. Analytic beginnings suggested for those who are not too sure of themselves; afterwards, free composition with the acquired forms.
Tacit wish: the freest possible compositions, more emphasis on violins as violins.
Results at first predominantly analytic.

21 November 1921
Exercise: The violin. Models: a 'cello, two violins
2. Line, plane, and orientation in space

Convergence: Two weeks ago we took up, among other things, the free line. I chose as an example a kind of line suggesting a restful walk without definite aim or purpose. This line had something restful, harmonious about it; if used as a theme in a composition, it would have favoured a treatment with accompanying forms. In musical terms, it would then have suggested a folk-song rather than a more elaborate form. And actually we added only companion forms or substitute forms to this resting line:

Companion forms, of an absolute converging character [1]
of an effective converging character [2]

or effectively converging, while the companion line retains its independence [3]. Rather like the path of a man with a dog running free.
Concerning the development of a point into a line, of a line into a plane, of a plane into a body

Point. The point as primordial element, all-pervasive.
Line. A point discharges its tension towards another point. The causal principle is the will inherent in reciprocal tension. Essence of a dimension. One-dimensional element.
Plane. Tension between line and line results in a plane. Essence of two dimensions. Two-dimensional element.

Divergence

Two diverging lines A-B and C-D with a point of intersection D.

Body, three dimensions

The line moves and produces the plane; the plane moves and the body comes into being. Essence of three dimensions. Three-dimensional element.
The cube is a balanced synthesis of three definite dimensions and as such the normative symbol of corporeality.

The movements summarised:
Characteristic of the dimension behind-in front (the third dimension) is the increasing in the opposite ends of the pictorial progression of points, lines, and surfaces. In the point the opposite ends of the pictorial elements are still effective; less so in the intermediary stages. They need more room before they can be weighed or measured by the eye, or critically appraised.
Body

two-dimensional, external-material, active-planar (outer surface of a body)

two-dimensional, marginal or middle (body-limit)

three-dimensional (body-outward)

Spatial

two-dimensional encompassing (activated passive)

Exotopic encompassing (without body)

three-dimensional and transparent

Inward

two-dimensional (content)

Most-inward (centre)

Inward two-dimensional, inward representation of outer planes

In contrast to the inside and outside of a body

Inward three-dimensional, body inside

The inward plays the dominant part. The whole inward territory designated by the word 'content'

Purely inward, body innermost
Notation by Klee: "Physiognomics:
(a) Pure function of vision
(b) Connection with the cerebral functions of feeling."

The combination of the bodily, spatial and inward forces of the basic forms leads to synthesis, that is, an interpenetration of space, body, and thing. The influence of the lines and planar forms suggests productive increase and decrease, outer and inner energies, growth and change. Interpenetration of endotopic and exotopic factors.

On endotopic interpenetration of space and bodies.

- 1981/11: Figure, p.383.
Concentric mesh in harmonious interpenetration. Forms generated by the superimposition and mixing of 1 and 2. With displacement (shift of centre) or change of position the mixed forms are modified.

Alternating endotopic and exotopic accent on 1 and 2

Inner linking of the two in free variation. Interpenetration of space and body. Basic possibilities:

- Combinations of identical forms, which are related, touching, which interpenetrate, which are meshed with one another, one of which absorbs the other,
- a) in constructive-logical connection,
- b) in a partly free selection.

(Metaphorical, sometimes psychological, allowing deeper spiritual reaction)

Klee in a remark to his students:

"The jester is a state of trance might be taken as an example of superimposed instant views of movement. When an independent movement is added, the elementary forms change and multiply evenly or unevenly. The accent of their space-body interpenetration changes accordingly."
Combined operations on horizontal planes of different heights and on vertical planes variously oriented as to left and right.

Perspective

Let us imagine two railway tracks [1]. There is something very misleading about this (?). For in reality these lines are quite divergent. If the rails keep moving farther apart, the train is bound to jump the track. Or suppose they take the opposite direction [2].

Rails that are going to cross somewhere up ahead are almost more alarming (?). What is going on? Well, the fact is we have suddenly passed from the planar to the spatial realm, to the third dimension. We are doing perspective.

In our last meeting we observed to our regret that we have no three-dimensional script that although we can move points into lines,

or lines into planes

we cannot, with any visual effect, move planes to form volumes. Consequently we must help ourselves with perspective.

But this will not be complicated or difficult if we stick to the essentials, and it is well worthwhile to clarify the underlying phenomena.
Construction of a natural progression that depends on length and thickness of lines and the spaces between them. (Possible amplification: scramble the lines while preserving their length and thickness.)

So those are railway tracks. Railway tracks lie on sleepers. How shall I represent this? If I were a surveyor or a map-maker, and I had to draw tracks on a plane, my picture would show two parallel lines.

Two parallel lines seen at right angles.

Cross-gradation. The sleepers would have to be placed at regular intervals.

The two parallel lines shift with a change in our visual angle. If the form of the space between two lines is left open, something else happens.

With cross-gradation.

Seen laterally from above with perspective progression towards the horizon (intermediate position).

Represented in spatial terms, this diagram looks quite different. As most Europeans know, the distance between the sleepers increases perceptibly towards the viewer.

Natural progression, seen frontally.
Construction in three dimensions

Construction of a space with displaced centre

Normal relations between centre and nuclear zones (density) [1].
Displaced centre and effects on the nuclear zones (density) [2].
(The abnormally divided square, dominated by the abnormal centre, presents entirely different proportions.)
Every change is based on extension or density and results in functional changes. The displacement of the centre brought out by tone value [3].

The front of the locomotive is at right angles to the plane between the rails [1] (thus at the start we have projected the greatest spatial elevation). We can now imagine new angles and planes in this new, third dimension (thus, for example, the new plane in Fig. 3 is at right angles to the plane in Fig. 2).
In the end we manage to construct a space in which we can march erect [4, 5].

Lengthwise gradation: Let us start once again from the notion of the rails but restricting ourselves to one sleeper lying far back and another that is close to us; in other words, to just two sleepers. We divide these sleepers into a number of equal parts; here for example, we intersect them at three points. A nearby and a distant sleeper divided into equal parts seen from the front [6].
In this way we pass from crosswise to lengthwise gradation; we see before us the perspective of a ground-plane with five parallel lines on it [7].
Now which line is most conspicuous? The middle line of course (from two to two). And in what capacity? As the vertical [8]. (Perspective progression with emphasis on the direction perpendicular to the sleepers.)
What does this vertical mean? It means that we ourselves have stood where it stands.
(The frontal plumbine.)
The shifting vertical, with shift of viewpoint (position of the eye) from left to right.

If we now take a step to the left, the vertical will shift to Point 1 and the ground-plane will take on this form in projection:

Position of the observer shifted leftward [1].

Whereas if the observer situates himself at 3, this new diagram will result.

Position of observer shifted to the right [2].

In material or terrestrial stastics the shortest way runs vertically from an original "front" position to a definitely marked-out horizontal line in the distance. The vertical (as plumb-line) means the correct way.

If I travel over a plane of this kind the vertical stays vertical as long as I do not leave the line, while the other lines radiate towards me [3].

But if I leave the line, the picture runs off in the opposite direction [4, 5].

This brings us, incidentally, to the phenomenon of countermovement.

Now let us stand still and proceed as before in connection with the crosswise gradation [6]. The following diagram results [7].

Again we have a space into which we can enter. I should like you to pay special attention to the side walls. On the ground-plane it was the vertical that assumed special importance; here it is the horizontal.
The horizontal. What does this horizontal mean? The answer will soon be apparent.
Within the space already known to us I have here built a second space whose upper surface is visible to the eye [1]. Hence we may speak more appropriately of a body than of a space contained within our visual field. For real spaces go beyond our field of vision (we are in them).

We have then a body that lets the eye look down on its upper surface. The horizontal plane that our eye sees from above lies lower than our eye, below us [1].

In this case the body yields no view of its upper surface [2]. If we suppose it to be made of glass, it will permit a view of this surface from below. But a horizontal plane that can be seen from below is situated higher than our eye, it is above us [2].
But in this third case something special happens. The eye cannot discern this surface as a surface either from above or below; it looks to us like a horizontal line.

This means that the body is exactly at the height of our eye. The horizontal is exactly at eye level. (If we want to be meticulous, we may add that the lengthwise and crosswise gradations coincide.) But what is true of this horizontal plane, is also logically true of the connected horizontal line of the two side walls. These horizontal lines at eye level appear again as horizontals in perspective projection.
We can conceive of a large plane defined by all these points from A to D (as shown above, we can never see this plane), the plane of the horizon. Or limiting ourselves to A, we can conceive of a large disc.

the horizon as appearance. Material (earthbound) statics or pure statics. 'Seen.'

the horizon as idea. Ideal (cosmically conscious) statics or idealised statics. 'Conceived.'

This horizontal disc separates all visible space into an upper and a lower part. As if we were in a great round tin, consisting of the tin and of its cover.

This sign (vertical and horizontal) corresponds also to the human frame in reference to the attraction of the earth. We have an acute sense of the vertical that keeps us from falling; and if need be (in an emergency) we extend our arms to correct and counterbalance a mistake. In special cases we prolong the horizontal, as a tightrope walker does with his pole.

The vertical is the direct path from a frontal viewpoint to a distant horizontal laid out behind.

The horizontal means eye level.

In material (earthbound) statics the relation between height and horizon varies. A 'raised horizon' is an extended horizon.

The raising of the eye level brings with it a raising of the horizontal:

| Standing |
| Siting |
| Lying down with head raised |
| foot = horizon |
The questions of perspective we have broached and everything else that seems worth knowing on the subject can be checked or investigated with the help of a very simple apparatus. Fasten a glass disc in a vertical position and place it at eye level in front of the object to be projected. You observe with one eye, which must remain in a fixed position. You drew the essential lines of the object on the glass disc with ink or crayon. If the glass is not vertical the lines will look distorted. Similar distortions are created by photographers who direct their cameras upward at an object whose perspective can easily be checked, e.g., a house.

Such images are not even objectively or logically wrong; the lower windows are closer to the eye than the upper ones, hence broader, which for purposes of perspective means larger. But at this point the human being puts in his veto, because he wants his horizontal and vertical fixed; otherwise he will totter and grow dizzy. It is not logically but physiologically wrong. The value of the whole process lies solely in the possibility of checking; there is no merit to drawing in proper perspective; anyone can do it. Additional examples: Van Gogh's perspective instrument. Hodler's 'cana'.

5 December 1921

Exercises:
Examples of balance in drawing and tone value, according to balanced structures in the plane.