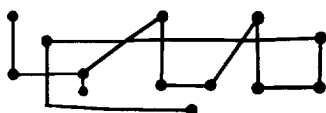


ON PROPORTIONS



STEFAN WOLPE

(TRANSLATED BY MATTHEW GREENBAUM)

TRANSLATOR'S INTRODUCTORY NOTE

ON PROPORTIONS" ("Vortrag über Proportionen") is not only a lecture: it is also a kind of theater piece, to be enacted by Stefan Wolpe (along with two pianists to play its forty-one musical examples). Half didactic study, half prose poem, it unifies a range of influences spanning Wolpe's life: the aesthetic of the Bauhaus (and his association with Paul Klee);¹ the generative process of the Hegelian Dialectic, probably of left-Hegelian provenance; and the free-associative programs of Dada and Surrealism. One can also hear echoes of the painters and poets at Black Mountain College.

However valuable as a document, the written text can never replace Wolpe's actual voice: lyric, stern, seductive, ferocious, joking, intimate,

ironic; and the text lacks the applause, laughter, and occasional interjections that accompanied his reading at Darmstadt (Internationale Ferienkurse für Neue Musik, 14 July 1960), a reading that transformed a lecture about music into a hectic music in itself.

The musical examples, originally performed along with the lecture, offer a grammar of Wolpe's compositional language from the middle fifties on. The elements of this language are symmetrical and asymmetrical pitch proportions. At the root of this language are two simple and quite audible musical ideas: (1) pitch symmetries duplicate identical intervals; (2) additional pitches increase the interval content of the symmetry. The former process creates cohesion, while the latter offers a progressive enrichment of interval color, an idea of great significance to Wolpe given his adherence to the use of a limited pitch field, particularly in his later works.

Wolpe begins his study of proportions by defining musical space and its articulation by pitch, Examples 1–4. He goes on to describe symmetrical proportions, and symmetries that contain or are contained by other symmetrical proportions, Examples 5–10. (Thus, in the symmetry $F B E^b A$, the center can be filled by another symmetrical proportion $C C\# D$; or it can be encapsulated by an even larger symmetry.) He then shows the arpeggiation of symmetrical proportions, Example 11, and demonstrates various techniques of linkage where the outer pitches of symmetries are exchanged with the inner pitches of others, Examples 12–14. The movement away from total symmetry reaches its culmination in Examples 15–16, which show symmetrical proportions that share few or no common pitches and are asymmetrical in relation to each other.

But Wolpe points out that asymmetrical elements have been present, if latent, from the first examples. These asymmetries have revealed themselves through the unfolding or interpenetration of symmetrical proportions. Since symmetry is, for Wolpe, more or less static (or, at least, a situation offering possibilities of unfolding and disruption), this revelation of asymmetrical content is a dialectical mode of development.

The nature and control of asymmetrical proportions is the subject of Examples 17–43. Example 17 begins by describing asymmetrical proportions and clusters within the range of an octave. Example 18 demonstrates the inherent musical limitations of these structures. Alternative approaches follow: in Examples 19–21 single pitches are separated from clusters, and Examples 22–23 show interactions of asymmetrical proportions. The discussion of musical space is resumed in Examples 24–27, which propose its articulation in various “regions” (registers) through proportional relations of various kinds. Examples 28–34 demonstrate the interpenetration of asymmetrical proportions of different sizes: extremely

large/extremely small; small superimposed on large and vice versa, small encapsulated in large, and so on. Examples 35–37 propose proportional “rows.” Finally, Examples 38–41 demonstrate the development of a proportion row and its unfolding as “multispatial” polyphony.

Wolpe places this proportional division of musical space within the context of a phenomenological grasp of musical time in which all levels of activity and language interpenetrate, a kind of sonic cubism. Although the underlying pitch material is controlled by means of proportions, surface relations are composed out by means of a “principle of unexpected occurrences,” a Dadaist “leap out of causality” which “sets free the theater of all things, all situations, all thoughts,” and where maximum diversity of expression produces a joyous and bewildering simultaneity and contradiction.

What precisely is meant by “proportion”? Wolpe speaks of “proportion” where “pitch symmetry” would seem quite adequate. But he is trying to describe something underlying pitch, a perceptual level beneath that of specific events: the realm of general categories (“larger,” “smaller,” “interpenetrating,” et cetera). And, as he is at pains to point out, these categories apply in any perceptual field (the “proportions of the audible and visible are twins of one and the same totality”). His long association with visual artists, from the Bauhaus days on, certainly form the ground of this approach, which betrays an unusually “painterly” attitude toward musical phenomena.

The language of “Über Proportionen” is discursive, idiosyncratic, full of invented words, and punctuated by sudden shifts of voice. (I have kept the German transcription’s “free-verse” format for certain portions of the lecture.) Wolpe lectures overlap in many respects and, in general, are not so much distinctive productions as different views of the same group of concerns. Thus, one can find in here material shared with other writings, particularly “Notes on Proportions” and “Thinking Twice.”² In “Über Proportionen,” however, he came closest to creating an equivalent in spoken language to the living process of his own musical thought.

With thanks to Austin Clarkson for his advice and assistance.

—Matthew Greenbaum

ON PROPORTIONS

1. Every tone is a step in tone space, Example 1.

EXAMPLE 1

The musical score for Example 1 consists of four staves. The top two staves are empty. The third staff (treble clef) contains a sequence of notes: a half note G4 (p), a quarter note A4 (mf), a quarter note B4 (p), and a quarter note C5 (p). The bottom staff (bass clef) contains a sequence of notes: a half note G3 (p), a quarter note F3 (mf), a quarter note E3 (p), and a quarter note D3 (sfz). A fermata is placed over the first note of the third staff. A dynamic marking '8' is placed above the first note of the third staff.

Each of these steps divides and articulates a space which is outwardly closed but, inwardly, endlessly open. Articulation of the distances that border both sides of a step occurs either indirectly (mutely), Example 2,³

EXAMPLE 2

The musical score for Example 2 consists of four staves. The top two staves are empty. The third staff (treble clef) contains a sequence of notes: a half note G4 (p), a quarter note A4 (ff), and a quarter note B4 (ff). The bottom staff (bass clef) contains a sequence of notes: a half note G3 (p), a quarter note F3 (mf), and a quarter note E3 (mf). A fermata is placed over the first note of the third staff. A dynamic marking '8' is placed above the first note of the third staff.

or directly, in which shadings of various kinds are composed at the borders of the distances in order to clarify the plasticity [*Plastik*] of the previously implied spatial formations (whether narrow or wide), Example 3.⁴

8 15
 3 black and white keys
 pp sfp f ff with ball of hand and fingers
 mf p
 mf ff
 f
 8

EXAMPLE 3

The thickness [*Tondichte*] of a step is as variable as one pleases and the distances on either side expand or contract according to the extension of the volume of the step, Example 4.⁵

15
 p < fff 4:3 f 3
 sfp pp
 white keys white keys white keys
 black keys mf p
 with arm and hand
 p

EXAMPLE 4

2. I repeat: the statement just made that every tone (or every tone cluster) is a step in tone space means that every step built into this tone space delimits and divides it into more or less articulated tone planes. These are passive, proportional effects. Hidden spatial components arise, shadow proportions since, along with the step (and its modifications) the entire tone space is also heard, constantly redivided. This means that the articulation of tone-spatial quantity relations is a spontaneous property of the tone-step.

3. Quantities are the ideas of vision [*Gedanken des Blicks*], of the inner outlook of the ear, and of the ultimate grasp or apprehension [*Griffs oder Begriffs*] of nature, an element of its formal self-completion. Quantity is established by the interval, the sounding distance, the calculated number. Number in music is sounding quantity, and where it does not sound, its idea is lost. Number is preceded by discriminations of quantity, images of intimate creative tendencies, for whose independent relativity there are no acceptable grounds other than their incommunicable appearances (as indeed for the nose or the carnation).⁶ To assimilate (to surrender) one quantity to another, or not to assimilate one to another (to reject) would be the two most basic situations. Given that there are eighty-eight pitches, there are forty-four pitches that may be combined to form intervals or interval groupings. That is, there are at one's disposal twenty-two autonomous, independent intervals (or multiple interval quantities) which can be contrasted with symmetrical correspondences.

Pitch space may be divided into midpoints by means of points of intersection. Either the top of one interval coincides with the bottom of an identical or (slightly modified) interval, Example 5,

The image shows a musical score for Example 5, consisting of four staves. The first two staves are in treble and bass clefs, respectively, with a key signature of one sharp (F#). The first staff has two notes: a quarter note on G4 marked *p* and a quarter note on A4 marked *sf p*. The second staff has two notes: a quarter note on G3 marked *sf p* and a quarter note on A3 marked *sf p*, with a slur over both. The third and fourth staves are also in treble and bass clefs, with a key signature of one sharp. The third staff has two notes: a quarter note on G4 marked *p* and a quarter note on A4 marked *pp*, with a slur over both and a '3' above the slur. The fourth staff has two notes: a quarter note on G3 marked *p* and a quarter note on A3 marked *pp*, with a slur over both and a '3' above the slur. There are also some markings like '7' and '3' that might refer to intervals or specific notes.

EXAMPLE 5

or an interval space of whatever size is broken at the midpoint [E, F],
Example 6,

Example 6 consists of two systems of musical notation. The first system features a treble clef staff with a dynamic marking of *mf* and a bass clef staff with a single note. The second system features a treble clef staff with a dynamic marking of *p* and a bass clef staff with a dynamic marking of *molto*. Both systems include a fermata over a note in the treble staff and a fermata over a note in the bass staff.

EXAMPLE 6

or equivalent interval distances are set beside each other in pairs,
Example 7,

Example 7 consists of two systems of musical notation. The first system features a treble clef staff with a dynamic marking of *p* and a bass clef staff with a dynamic marking of *p*. The second system features a treble clef staff with a dynamic marking of *p* and a bass clef staff with a dynamic marking of *p*. Both systems include a fermata over a note in the treble staff and a fermata over a note in the bass staff. The second system also includes a dynamic marking of *sf p* and a dynamic marking of *f*.

EXAMPLE 7

whereby the midpoint condenses in the tone-bundle of the interval tones bordering both sides, Example 7a; an inner area,⁷ a would-be midpoint hinge forms, Example 7b. This inner area becomes that much larger the less proximately the corner pitches fold out from the intervals bordering its sides, Example 8.⁸

EXAMPLE 8

The hollow space [F–B \flat] can be condensed at will so that the remaining tones [F \sharp , A] can be partially or completely inserted around a newly construed midpoint [at G, G \sharp] Example 8a.⁹

EXAMPLE 8a

Procedures like these demonstrate progressive midpoint formations: mid-points, mid-bundles, mid-segments, middle tone masses.

Distances between single tones are regulated in this way. Pitch space is divided proportionally. Specific proportions are thrown out, like nets that grasp [*fangen*] space. The symmetrical articulation of tone space thus begins [*fängt an*], linked with the symmetrical limitation.

Each pitch space grouped around a midpoint [*Ab* piano II], Example 9,

The image shows a musical score for Example 9, consisting of two systems of music. Each system has a treble and bass staff. The first system starts with a treble staff marked *pp* and a bass staff marked *mp*. The music progresses through five measures, with dynamic markings *mp*, *f*, *f*, *f*, and *f*. Labels A, B, C, D, and E are placed below the first five measures. The second system starts with a treble staff marked *p* and a bass staff marked *p*. It also progresses through five measures, with dynamic markings *mp*, *p*, *f*, *f*, and *f*. Labels *p f* and *p f* are placed below the first two measures of the second system. The score is titled "EXAMPLE 9" at the bottom.

opens up two new spaces, Example 9a, which for their part can in turn be grouped around a midpoint, Example 9b,¹⁰ whose freshly articulated spaces are subject to the formation of new midpoints, Example 9c, until for want of space, space is forced out of space, Example 9d. This continual stepwise reproduction of midpoints multiplies the symmetrical structure of a pitch space in the process of division, structuring its manifold symmetry (as if there were proportional steps proceeding inward). With the abundance of increasing symmetrical nestings, the clear perception of symmetrical structures in a particular region as symmetrical correspondences within the total region diminishes, in favor of a tightly condensed and completely centralized mass sound, Example 9e, in which the boundaries of the proportions overlap entirely. Indeed, the more that pitch space is sufficiently symmetrically proportioned, the more the possibility grows of a proportional redefinition of the groups. Such a group displacement represents the proportional modulation of the parts, and this is important for the differentiation of symmetry.

Instead of a whole, narrowly unfolded in uniform distances of perfect and altered fourths, Example 10,¹¹ partial groups of tenths are exposed in the same symmetrically bound proportional body, and produce not only different but equal, Example 10a, but also unequal(!) inner relations (sevenths plus fourths), Example 10b. The internal symmetrical structure is interrupted, suspended, and obscured. The system of relations shifts.

The musical score for Example 10 is presented in three systems, each with two staves (treble and bass clef). The first system contains measures A and B. Measure A features a treble staff with a *mf* dynamic and a bass staff with a *sf p* dynamic. Measure B features a treble staff with a *sf p* dynamic and a bass staff with a *pp < sf p* dynamic. The second system contains measures C, D, and E. Measure C features a treble staff with a *mf* dynamic and a bass staff with a *mf* dynamic. Measure D features a treble staff with a *pp* dynamic and a bass staff with a *f* dynamic. Measure E features a treble staff with a *mf* dynamic and a bass staff with a *f* dynamic. The third system contains measures 8 and 9. Measure 8 features a treble staff with a *f* dynamic and a bass staff with a *f* dynamic. Measure 9 features a treble staff with a *f* dynamic and a bass staff with a *p* dynamic. The score includes various musical notations such as triplets, slurs, and dynamic markings.

EXAMPLE 10

Proportions which are in fact parts of a symmetrical total structure are isolated and set in motion as independent, suspended, outer proportions, Example 10c; a proportional contour without any inner differentiation is formed. The numerous symmetrical relations of groups, the accumulated symmetry with all its segmental partitioning de-form into a whole in those midspace dimensions of which I have already made mention in connection with the widening of the midpoints.

The massive internal segment and its corresponding minutely measured outer segment; or (in other words) the midspace dimension and the contour of the total proportion isolated from it, burst the inner symmetry, and the equivalence of parts experiences its first contrasting disturbance. The contour pitches can in turn form new interval correspondences, Example 10d, or admit new symmetrical formations, Example 10e.

Until now, the doubly articulated space embraced by mirror correspondences extends in only a graded and closed dimension, of course. The dimensions multiply, cross, and upset each other as soon as the interval proportions that symmetrically control space become independent of one another, so that single pitch fields are formed from symmetrical constructions of the most varied sizes and densities. Self-evidently, this changes the dynamic of the total proportion distributed through a pitch space. The manner of succession of the linkage of symmetrically bound pitch fields depends, therefore, on how many dimensions space is to materialize, how many dimensions are admitted as spatial reality. This, then, determines the *relievo* of the sound form; that is, the approach to sound; that is, simultaneous and nonsimultaneous orderings; that is, simultaneous nonsimultaneity; that is, once again, what the space in each instant is to be, and how its multidimensionality reverses, breaks down, and ensnares sound occurrences, Example 11 and Example 11a.¹²

4. Despite manifold asynchronous entrances into the sound, attempting a richer stratification: the multifrontal, multidorsal, multiply sided, multiply folded, contracted, the many-faced; despite the unlayering of a total spatial moment, the sound still remains stuck in sound: in the continuity of the sound verticals, in the design of its sound quantities, even if this sound quantity had already come about as the sum of simultaneous multidirectional impulses.

Like physical space, pitch space is a timeless whole, omnipresent, open and variable in its dimensions. Everything is present—the turned against, the turned out, the ultimate turning, the corner of escape, the furthest

point, the harshest opposition, the most extreme proximity—all is there at once. Yet just before it is reachable, and reached, there is lightning!—simultaneous revelation of space, infinity made to sound. . . . Within these multiply turned and exposed fronts and spatial penetrations circulates the readily turned sound, the permanently variable sound form, the sound figure whose location in space, whose density and size diverge continually [*vorwährend*], thanks to reciprocally modulating proportions.

The image shows a musical score for Example 11, consisting of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is in 7/8 time. The score includes various dynamics: *f* (forte), *mf* (mezzo-forte), *ff* (fortissimo), and *pp* (pianissimo). There are also articulations such as accents, slurs, and fingerings (3, 5, 8). A section marked 'A' is indicated by a bracket. The score is presented in a black and white format.

EXAMPLE 11

The proportion-forming function of the bottom and top pitches of the outsides and the mid-point tones of the insides can be exchanged and extended. Now, proportions of different and unequal lengths divide at a given midpoint, which results in asymmetrical border proportions or axis relations the moment a proportional form is abandoned, Example 12.¹³ The space becomes open, porous, and multiform, and the plasticity of the adjoining, yet separate and multidirectionally divergent sound events is sharpened.

Example 12 is a musical score consisting of four staves. The top staff is in treble clef, starting with a piano (*p*) dynamic and a half note with a flat. The second staff is in bass clef, starting with a piano (*p*) dynamic and a half note with a flat. The third staff is in treble clef, starting with a fortissimo (*ff*) dynamic and a half note with a flat. The fourth staff is in bass clef, starting with a fortissimo (*ff*) dynamic and a half note with a flat. The score includes various dynamics such as *p*, *f*, *sfz*, and *ff*. There are also articulations like accents and slurs. A bracket labeled '5' spans across the second and third staves, and another bracket labeled '15' spans across the third and fourth staves. A dashed line labeled '8' is at the bottom of the fourth staff.

EXAMPLE 12

5. As soon as the functions of the middle and the two outsides shift, the principle of symmetrical interior and exterior division changes. The middle is transformed into upper and lower outsides, which are symmetrically aligned (and unfolded), or shut together (and contracted), Example 13.¹⁴

Example 13 is a musical score consisting of four staves. The top staff is in treble clef, starting with a piano (*p*) dynamic and a half note with a flat. The second staff is in bass clef, starting with a piano (*p*) dynamic and a half note with a flat. The third staff is in treble clef, starting with a fortissimo (*ff*) dynamic and a half note with a flat. The fourth staff is in bass clef, starting with a fortissimo (*ff*) dynamic and a half note with a flat. The score includes various dynamics such as *p*, *f*, *sfp*, *pp*, *fpp*, *p*, and *piu f*. There are also articulations like accents and slurs. A bracket labeled '3' spans across the second and third staves, and another bracket labeled '3' spans across the third and fourth staves.

EXAMPLE 13

The outsides are similarly reassembled. Outsides flip over into new middles. It is a matter of symmetrical articulations which relate at an asymmetrical angle to the preceding articulations. Proportional functions are modified. The altered functions of the intersections allow proportions that shift continuously in relation to each other, despite multiple symmetries, despite regulated distances, Example 14.¹⁵

The image shows a musical score for Example 14, consisting of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one sharp (F#). The music features various dynamics, including *p* (piano) and *f* (forte). There are several articulations, such as slurs and accents. Fingerings are indicated with numbers 5 and 8. The notation includes eighth and sixteenth notes, rests, and a fermata. The score is presented in a standard musical notation style with a light background.

EXAMPLE 14

Precisely this shifting of proportions—comparable to clockwork parts of unequal sizes, whose rotations occur in intertwined curves of never-recurring intervals (or predetermined in their recurrence)—precisely this specific shifting of proportions set in motion together guarantees a sound layered in contrasting strata, removes restriction to one-dimensional planes, so that these planes are continually freed newly to arrange themselves.

The asymmetrical angles obtained, which are inserted between still symmetrically proportioned and functionally altered middles or outsides, radicalize the total structure. The pitch space is now flooded with symmetrical constructions of all sizes, and simple or multiple symmetrical correspondences which expand over the total space. None of these constructions depends any longer on proportional functions of the single divisions, where middles become outsides and outsides middles. Each group is now self-determined, and the symmetrical structure is either extremely compressed or widely open, widely distributed, Example 15.¹⁶

The image shows a musical score for Example 15, consisting of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is written in a complex, contemporary style with various dynamics and articulations. The first staff has a dynamic of *f* (forte) and *mf* (mezzo-forte). The second staff has a dynamic of *p* (piano). The third and fourth staves have dynamics of *mf* and *f*. There are several slurs and accents throughout the piece. The score is labeled "EXAMPLE 15" at the bottom.

The position in space depends completely on the symmetrical area of play which divides the groups from one another, and in which the groups intersect.

This asymmetrical area of play represents the (for the time being) general principle that regulates the traffic of groups with one another, Example 15a. There is a general grammar of relations. It ensures the sudden rupture of fixed regions. It advocates the extreme maneuverability of spatial intervals, of sound planes. It proposes the intercrossing of symmetrical constructions of the most varied sizes and densities. It determines the asymmetrical area of play between groups, and multiple symmetry in simultaneous asymmetrical distances. No place in space remains untouched. Space is open, full of holes and full of heaps.

No balance is sought between groups. Symmetrical mirror correspondences and symmetrical group correspondences are irresolvable. The double of the situation is often a blunt fact. Arrogant and proud contents. Often they are dropped or they vanish. There is nothing to bind or to conserve. Certainly (and however), everything remains clinging in space—where else can it go? As the eye looking into itself, or the cross-examining of the mind, it is the omnipresence of all spatial planes. The

proportion of the whole parcel of all dimensions is promised, the self-revelatory space of content, or the self-shaping content of space.

The image displays a musical score for Example 15a, consisting of two systems of staves. The first system includes four staves: the top two are in treble clef, and the bottom two are in bass clef. The music features various dynamics such as *sf*, *ff*, *ppp*, *mf*, and *f*. It includes articulations like accents and slurs, and specific markings for fingerings (3, 5, 8) and a triplet. The second system also consists of four staves, with the top two in treble clef and the bottom two in bass clef. Dynamics include *mf*, *pp*, and *p*. It features slurs, accents, and markings for 'R.H. L.H.' and 'L.H.' with fingerings 3 and 5. The score is presented in a clear, black-and-white format with standard musical notation.

EXAMPLE 15a

6. It is the general (not yet categorical) polyphony of proportions from which space develops in the permeation of its multicentric aspects: in simultaneous unfoldings or contractions, Example 16.¹⁷

The image shows a musical score for Example 16, consisting of four staves. The top staff is in treble clef and contains a melodic line with a triplet of eighth notes marked with a '3' above it. The second staff is in bass clef and contains a bass line with dynamics *mp* and *piu f*. The third staff is in treble clef and contains a melodic line with dynamics *mf*, *f*, *pp*, and *ff*, and a triplet of eighth notes marked with a '3' above it. The bottom staff is in bass clef and contains a bass line with dynamics *f*, *p*, and *(p)*. There are also some numerical markings like '8' and '8' with dashed lines. The score is set in a key with one flat (B-flat) and a 4/4 time signature.

EXAMPLE 16

It is, finally, a question of the distribution of actions and renewed-proportionally renewed-multidimensional continuity of sound. The asymmetrical tug of groups, the leap into asymmetrical distances; the commerce of such groups, regulated in asymmetrical distances with other, likewise symmetrically constructed groups; this manifest, progressive change of quantity sets free the quantity of antithetically ordered proportions, sets free the (until now) parenthetical antithesis. Now the counterquantity, the unequal quantity, the open proportion are free.

7. Elementary twelve-tone cell structure already has at its disposal the asymmetrical prototype, where the smallest [B, C] stands next to the largest [B \flat , C], Example 17, and the largest next to the smallest, Example 17a; where the less small stands beside the less large [D, B \flat], Example 17b, and the less large beside the less small, Example 17c; where the smaller quantity differentiates through asymmetrical thickening, Example 17d, as the larger one differentiates through asymmetrical thickening, Example 17c.

The musical score for Example 17 is divided into three systems, each with two staves. The first system contains notes A, B, and C, with triplets and dynamics *f ppp*. The second system contains notes D, E, F, G, and H, with dynamics *f*, *mp*, *mf*, and *p sfz*. The third system contains notes D, E, F, G, and H, with dynamics *pp* and *mf*. The score includes various musical notations such as triplets, slurs, and dynamic markings.

EXAMPLE 17

Where the symmetrical intersecting point [*Schnittpunkt*] is freed from limitation, and where the asymmetrical proportion forms the asymmetrical sound structure through endless thickenings. Clusters arise: the cluster in the smaller cells of the quantity, Example 17f, and the cluster in the larger cells of the quantity, Example 17g, but always within the borders of the major seventh—that is, inside an elementary chromatic cell structure. The asymmetrical layers of the cluster differentiate themselves by progressive thickening, Example 17h. The (latent) unity of the

proportional antitheses (that is, the idea of the included antithesis) finally leads to their negation, to the negation of the excluded antithesis. Or, more carefully formulated, leads to a general obscuring and weakening of all essential differences.

In the extreme layering of simultaneous asymmetries for which the cluster, the swarm, the crowd, and the entanglement are typical perceptual forms—even there—their suspended center originates, since in general almost the same thing is happening at the same time. Movements are begun, are simultaneously dropped, are again restored, are multiplied, simultaneously interlaced, are welded together, simultaneously distorted and entangled, Example 18.¹⁸

The musical score for Example 18 consists of four systems of staves. The notation is highly complex, featuring numerous triplets, sixteenth notes, and dynamic markings such as *p*, *sfp*, *fp*, *mf*, *p*, *sfp*, *mf*, *(mf)*, *f*, *ff*, *pp*, *mf*, *ff*, *p*, *mf*, and *piu f*. The score includes various articulations and phrasing marks, including slurs, accents, and breath marks. The first system has a 3:4 ratio, the second has a 5:4 ratio, and the third has a 6:4 ratio. The overall texture is dense and layered, illustrating the concepts of simultaneous asymmetries and perceptual forms mentioned in the text.

EXAMPLE 18

Observe a swarm of bees, hundreds of fish, or a pack of hungry animals fighting one another. Observe hundreds of entangled waves or any chaos of movement: the pathos of aberrant disorderings, street movement, leaves and flocks, and sand in a storm. The center is always the totality in communication with itself; yet the center is suspended, as time is suspended when it is dispersed over infinity.¹⁹

8. But, how to regain the negated antithesis?²⁰ By searching for progressive differentiation of those elementary asymmetries distributed within the narrowest chromatic range. . . . How can you qualify the (enchanted) opposite in its process? Perhaps there is no hierarchy in the succession of asymmetrical occurrences. Who, rather than counting on variety, would catalogue cloud forms, or count stars, grass, raindrops? Who would measure [*bemässen*] the infinite, other than, perhaps, Bouvard and Pécuchet, Flaubert's bourgeois heroes of naïve extravagance [*Maßlosigkeit*]? Perhaps the next step, which extends beyond the chromatic cell structure of asymmetrically formed clusters, perhaps [the next step] is the all-centric cluster linked with isolated and asymmetrical distances.

It is the mass of latent, concealed proportions that stands in relation to the exposed single step. Plurality of mass form versus singularity of individual form. Clusters, and asymmetrically articulated distances in relation to the clusters, Example 19.²¹

The image shows a musical score for Example 19, consisting of four staves. The notation includes various dynamics and articulations:

- Staff 1: Dynamics *mf*, *sfz*, and *mf* with a *molto* hairpin. It features a cluster of notes in the first measure and a triplet in the fourth.
- Staff 2: Dynamics *p* and *ff*. It features a triplet in the second measure and a triplet in the fourth.
- Staff 3: Dynamics *p* and *ff*. It features a triplet in the second measure and a triplet in the fourth.
- Staff 4: Dynamics *fp*. It features a quintuplet in the second measure.

EXAMPLE 19

The more such distances are extended, measured against the relative (and remarkable) weakness of the cluster, the more acutely natural and multiform the asymmetrical sensation becomes, Examples 20, 21.

Example 20 is a musical score consisting of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one sharp (F#). The score includes various dynamics: *sf*, *f*, *p*, *mf*, *pp*, and *f*. There are several triplet markings (indicated by a '3' over a bracket) and a fermata over a note in the second staff. The notation includes chords, single notes, and some complex rhythmic patterns.

EXAMPLE 20

Example 21 is a musical score consisting of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one sharp (F#). The score includes various dynamics: *fp*, *piu f*, *ff*, *f*, and *sfz*. There are several triplet markings (indicated by a '3' over a bracket) and a quintuplet marking (indicated by a '5' over a bracket). The notation includes chords, single notes, and some complex rhythmic patterns.

EXAMPLE 21

The incorporated [*eingliederige*] distance de-forms into many-membered [*vieltgliederigen*] motions in which the distance is partitioned into numerous unequal segments, among which in turn one of these segments is subordinated; or rather, reproduces coordinated asymmetrically partitioned segments, Example 22.²²

The image shows a musical score for Example 22, consisting of piano and violin parts. The piano part is written in bass clef with a key signature of one flat (B-flat major or D minor) and a 7/8 time signature. It features a complex rhythmic pattern with a 5-measure phrase marked 'sfz' and a 3-measure phrase. The violin part is written in treble clef with the same key signature and time signature, featuring a melodic line with a slur and a fermata. The score is labeled 'EXAMPLE 22' at the bottom.

In this way, pitch space coalesces in asymmetrical ramifications whose density, in their most radical form, leads to the total obstruction of all movement, to a motion no longer progressive, only an agitated kind of non-motion. In excess of such a state, the proportional dissociation of a pitch and the possibilities for its proportional alignments finally reaches its limits.

The theory of general and simultaneous asymmetrical engagement, measuring, permeation, winging through—requires space in its multidimensional totality. Hence the simultaneous proportioning of its ambiguous, scattered sites—or, if in fact not contemporaneous, the progressive (or simultaneous) succession seeks to illuminate and to make answerable antithetically completed spatial configurations, Example 23.²³

Thus, non-cohering space; since wherever it is, it is still always elsewhere—in the flight into a whole—in the flight into a continuously vanishing whole.

EXAMPLE 23

The musical score for Example 23 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has one sharp (F#). The score includes various dynamics: *p*, *sf p*, *ff*, and *f*. There are also articulations such as accents and slurs. Fingerings are indicated with numbers 3, 5, and 8. A bracketed section with a squiggle is present in the upper staff.

9. The compelling tendency to segmentation—to define each place in pitch space by progressively modified asymmetrical constellations—this tendency corresponds completely to the principle of unexpected occurrences, in which a quantity presumed known discloses various unknown (i.e., incalculable) dimensions. The only a priori ordering which is not lifeless is the totality of the endlessly inflected fields of connections which subordinate themselves to spatial connection, from which spatial connections then result. Certain things must occur, certain reciprocal developments must be taken into account. The principle of unexpected occurrences is like a bride whose particular mode of betraying her lovers is unpredictable, but who does not disappoint them.

There is a succession of elementary proportional preorderings of pitch space: That of the twelve-step preordering in seven regions, Example 24;²⁴

EXAMPLE 24

The musical score for Example 24 consists of four staves. The first two staves are in treble clef and the last two are in bass clef. The key signature has one sharp (F#). The score includes various dynamics: *f*, *mf*, *ff*, *pp*, *p*, and *sf p*. There are also articulations such as accents, slurs, and brackets. Fingerings are indicated with numbers 3, 5, and 8. A bracketed section with a squiggle is present in the first staff.

that of the multiple relations of choice among these regions, as in the following examples. In the first example regions 1, 2, 3, 6, and 7 are established (connected to one another), Example 24a.

EXAMPLE 24a

The musical score for Example 24a consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one sharp (F#). The score includes several dynamic markings: *p* (piano) in the first staff, *ff* (fortissimo) in the second staff, *p* in the third staff, *mf* (mezzo-forte) in the fourth staff, and *pp* (pianissimo) in the fourth staff. There are also articulation marks like accents and slurs. A bracket labeled '3' indicates a triplet in the third staff. A dashed box labeled '8' spans the first two staves, and another dashed box labeled '8' spans the second and third staves.

In the second example regions 1, 2, 5, and 7 are established, generating the constellatory space in which the shapes move, Example 24b.

EXAMPLE 24b

The musical score for Example 24b consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one sharp (F#). The score includes several dynamic markings: *p* (piano) in the first staff, *mp* (mezzo-piano) in the third staff, and *f* (forte) in the fourth staff. There are also articulation marks like accents and slurs. A bracket labeled '3' indicates a triplet in the third staff. A dashed box labeled '8' spans the second and third staves.

In the third example, regions 2, 3, 6, and 7, Example 24c.

EXAMPLE 24c

The musical score for Example 24c consists of four staves. The first staff is in treble clef and contains two measures with dynamic markings *f* and *ff*. The second staff is in treble clef and contains two measures with dynamic markings *mf*, *pp*, and *f*. The third staff is in bass clef and contains two measures with dynamic markings *mf*, *f*, and *mf*, along with a triplet of eighth notes. The fourth staff is in bass clef and contains two measures with dynamic markings *mf* and *f*. A large slur covers the final notes of the third and fourth staves.

In the fourth example, symmetrical singular or plural interval constructions are grouped around midpoints or midbundles, Example 25,²⁵

EXAMPLE 25

The musical score for Example 25 consists of four staves. The first staff is in treble clef and contains two measures with dynamic markings *p*, *ff*, and *fff*. The second staff is in treble clef and contains two measures with dynamic markings *mf*, *pp*, and *mf*. The third staff is in treble clef and contains two measures with dynamic markings *p* and *f*. The fourth staff is in bass clef and contains two measures with dynamic markings *f* and *mf*, along with a triplet of eighth notes.

or, in the fifth example, the free combination of a few (or all) of these autonomous symmetrical interval constructions, Example 26,²⁶

EXAMPLE 26

The image shows a musical score for Example 26, consisting of two staves (treble and bass clef). The music is in a key with three sharps (F#, C#, G#). The first staff has a treble clef and contains a series of chords and notes. The second staff has a bass clef and contains a series of chords and notes. Dynamic markings are placed below the notes: *sfp* (first measure), *pp* (second measure), *mf* (third measure), and *ff* (fourth measure). There is a triplet of notes in the second measure of the bass staff.

or mirror proportions of symmetrical correspondences of symmetrical or asymmetrical groups in the sixth example, Example 27.²⁷

EXAMPLE 27

The image shows a musical score for Example 27, consisting of four staves (two treble clefs and two bass clefs). The music is in a key with three sharps (F#, C#, G#). The first staff has a treble clef and contains a series of chords and notes. The second staff has a treble clef and contains a series of chords and notes. The third staff has a treble clef and contains a series of chords and notes. The fourth staff has a bass clef and contains a series of chords and notes. Dynamic markings are placed below the notes: *sfp* (first measure), *pp* (second measure), *mf* (third measure), and *ff* (fourth measure). There are triplets of notes in the first and second measures of the first two staves, and a quintuplet of notes in the third measure of the third staff.

The other proportional preorderings of pitch space are far less elementary, or everything would be a proportional basic form. (This is certainly so in the narcissism of the inventive, combinational nature of proportions; yet man makes choices, and man is without a priori nature.)

However, the manner of qualifying asymmetrical continuities—the manner of directing endlessly inflectible, multidimensional asymmetrical projection—is reserved for the proportioning of proportions. Infinity returns to a bounded terrain as a piece of infinity. It must be managed, however strange that may be.

Multidimensional space is an endlessly divided totality of irregular aspects incessantly folded into each other. It is the endless antithesis, which crystallizes in the whole of space, which preserves itself as the whole of space. The spatial totality continually renews itself. Whenever the total space, the part of the whole, the part of space of the very last “total” whole is attained, the time is right, and infinity develops. But in this infinity the future only returns: the endless antithesis to come, the eternal return of the nonidentical.

But the conditions of space remain the same. These are unchanged conditions.

Therefore I said before: certain things must occur, reciprocal developments must be taken into account.

10. In the alphabet of asymmetrical size relations there are equivalent basic quantities. Within a chromatic region, whichever one it is, the elementary relations of the smallest step to the largest (minor second to major seventh) correspond to the proportions of the total region: for example, the eighty-five semitone ninth and the following minor second, which should be even smaller (as it already is, in terms of expressiveness), namely the largest-smallest interval; or the correspondence may occur where such a largest-smallest interval adjusts by aligning to a largest interval to be its smallest correspondence, Example 28.

When an extreme becomes unsurpassable, the quality of its distinctiveness dissolves. Such minute distances become secondary quantities in this preponderance of asymmetry. This is the danger of such tiny intervals. They are absorbed like nodules by the bounding tones of the greatest ones, Example 28a. Complex images of a tone are generated, bringing with them an increased coloration. Hence, one demands an equivalence of corresponding quantity relations, an equivalence which correctively adjusts the distance in order to secure the shock of the primary auditory effect of asymmetry.

The total distance of six regions (seventy-two semitones) certainly displays an enormous quantitative mass, and field of quantity, in opposition to which the seventh region (and what remains) may be maintained as an equivalent small quantity [B_7 , C_8], Example 28b. As an unequivocally

asymmetrical disposition, it describes, in any case, a basic condition. The outer field may be asymmetrically subdivided further [by $G\#_5$], to differentiate the smaller quantity through further diminutions, Example 28c, in order to enrich and enliven the dynamics of the proportion, whose gathering and scattering reciprocally allow the untouched larger quantity to appear greater than it is. Yet each proportion constructed by these means reveals the dynamic of immeasurable sensations. Hence the often oscillating quantity in opposition to an immovable one; hence the often immovable quantity in opposition to an oscillating one.

The image shows a musical score for Example 28, consisting of four staves. The top staff is in treble clef and contains four measures with notes and rests. Above the first measure is a bracket labeled '15' and above the last measure is a bracket labeled '8'. Below the notes are dynamic markings: *f*, *ffpp*, *mf*, and *f*. The second staff is in bass clef and contains four measures with notes and rests. Below the notes are markings 'A', 'B', and 'C' under the second, third, and fourth measures respectively. The third staff is in treble clef and contains four measures with notes and rests. Below the notes are dynamic markings: *ff*, *pp*, *f*, and *rf*. Above the first measure is a bracket labeled '15' and above the last measure is a bracket labeled '8'. The fourth staff is in treble clef and contains four measures with notes and rests. Below the notes is a bracket labeled '8' under the last measure. The text 'EXAMPLE 28' is centered below the staves.

The proportional condition of reciprocity—in a single region, to oppose a great quantity to a minute one (and the minute to the great)—just as in a nearly completed region, to secure for the great its equivalent minute quantity—such a united, restricted relation has two variants. The one turns the proportion around, Example 29.

The other integrates the equivalent small quantity into the total region, saving an asymmetrical inner field in the neighborhood of its boundaries, Example 30.

Example 29 is a musical score consisting of four staves. The top staff is in treble clef and contains a melodic line starting with a quarter note G4 (marked with an 8), followed by a half note A4, and a quarter note B4. The dynamic is *f*. The second staff is in bass clef and contains a half note G3 and a quarter note A3. The third staff is in treble clef and contains a whole rest. The fourth staff is in bass clef and contains a half note G2 (marked with an 8) and a quarter note A2. The dynamic is *ff*.

EXAMPLE 29

Example 30 is a musical score consisting of four staves. The top staff is in treble clef and contains a half note G4 (marked with an 8) and a quarter note A4. The dynamic is *mf*. The second staff is in treble clef and contains a half note G4. The third staff is in treble clef and contains a melodic line starting with a quarter note G4, followed by a half note A4, and a quarter note B4. The dynamic is *f*. The fourth staff is in bass clef and contains a half note G2 (marked with an 8) and a quarter note A2. The dynamic is *mf*.

EXAMPLE 30

11. Proportions are functions of a spatial relational system. Proportions are actions of space. Space, as already off-noted, is a multidimensional, multitemporal, multiply folding, multiply planed and divided, perpetually displaced, perpetually reestablished whole. The asymmetrical basic distribution, self enclosed, permanent, and stable, spreading over the total region, combines with the similarly bound asymmetrical single region described before, Examples 31, 32.

Example 31 consists of two systems of musical notation. The first system has two staves: the top staff is in treble clef and the bottom in bass clef. Both staves begin with a dotted quarter note followed by a quarter rest. The top staff has a triplet of eighth notes marked with a bracket and the number '3'. The bottom staff also has a triplet of eighth notes marked with a bracket and the number '3'. The second system has four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The first staff of the second system starts with a half note marked *mf* and an accent (>), followed by a quarter rest. The second staff of the second system starts with a half note marked *ff*, followed by a quarter rest. The third staff of the second system starts with a half note marked *ppp*, followed by a quarter rest. The fourth staff of the second system starts with a half note marked *p*, followed by a quarter rest. There are also some chordal textures in the lower staves of the second system.

EXAMPLE 31

Example 32 consists of two systems of musical notation. The first system has two staves: the top staff is in treble clef and the bottom in bass clef. The top staff starts with a half note marked *p* and an accent (>), followed by a quarter rest. The bottom staff starts with a half note marked *ff*, followed by a quarter rest. The second system has four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The first staff of the second system starts with a half note marked *mf*, followed by a quarter rest. The second staff of the second system starts with a half note marked *sfz*, followed by a quarter rest. The third staff of the second system starts with a half note marked *pp*, followed by a quarter rest. The fourth staff of the second system starts with a half note marked *sfp*, followed by a quarter rest. There are also some chordal textures in the lower staves of the second system.

EXAMPLE 32

Such single regions, with their inner asymmetrical fields, are like little, compressed, asymmetrically and densely composed bodies, mobile, nimble, disengaged, free, always elsewhere, in complete dissociation from other factors, unfixable, asymmetry in motion, a rapid self-suspended center, inconstant, the asymmetry of the constant. Quantity, diminution, fragment, nothing. Nothing, quantity, fragment, diminution. Chained, confused, lame, leap. Confused, lame, leap, chained. The stable, self-determined, self-continuing; the great proportional constellation linked to the lightning of displacement: irresponsible, the asymmetrical fly, the elementary, early, asymmetrical to and fro: punctuated space, isolated positions, endlessly punctuated local concentrations, dimensions resolved in an instant, decomposed in an instant: signs of irregular arrangements as well.

12. In multiple asymmetry in motion, it is primarily a matter of the nature of the proportion, of its organic manifestation, its tendentious, rudimentary condition. The hyper-quantity joined with its equivalent minute quantity, the rudimentary closed proportion, as opposed to the unstable-anarchic, which, having no specific place, bursts through every possible asymmetrical partition point (this is its specific situation)—this is the pace of the situation, its specific complementarity, a twofold budding (and this is the minimum quantity), the unsteady counterdimension in space.

Only the centers are avoided. Later, when the proportions begin to exhaust themselves in the return of the (finite) unlike, they are no longer avoided. But oblique centers, somewhat outside and beyond the borders, are extremely varied asymmetries. (There are extremely varied symmetries as well.) It is the oblique point, the point which is oblique, the oblique central point: the neutral proportion. (Perhaps . . .) each large quantity, each six-part region, can naturally be subdivided asymmetrically. This is the fate of such majestic proportions: they become too garrulous as a result of their division. They fall victim to their own abundance of divisible dimensions.

The proportion is a desire. It wants to materialize in progressive proportionings. This is its dynamic. What it gains in liveliness on one hand by proportional differentiation, it loses to pathos on the other. The more narrow the field in which progressing proportions divide, the more transparent beauty disappears, the sensitive transparency of sharply differentiated distances. Stricter differentiations are neutralized in the massive amalgam of the parts, and coefficients disappear under the weight of the quantities (like colors in the dark night, or the grammar of consciousness in the grave).

Let us take the case already described, where the greater quantity is proportionally coupled to its equivalent smaller quantity. All the pitches obtained by subdivision, which lie within a single region, Example 33,²⁸

The image shows a musical score for Example 33, consisting of four staves. The top staff is in treble clef with a key signature of one flat (B-flat). It contains notes with dynamics *p*, *mf*, and *pp f*. A bracket labeled [A] spans the final notes, with an '8' indicating an eighth note. The second staff is in bass clef, with notes and dynamics *p*. The third staff is in treble clef, featuring triplets (marked '3') and dynamics *f*, *pp*, *mf*, and *ff*. The bottom staff is in treble clef, with notes and dynamics *mf*, *pp*, *mf*, and *ff*.

EXAMPLE 33

and under the top pitch of the greater quantity, fall to the massively subdivided (Example 33a)²⁹ asymmetrical outer region of an adjoining small quantity. This represents a principle of immediate cohesion.

13. Greater distances are therefore necessary to escape the irresistible amalgamation of this asymmetrical basic proportion. The tendency of such proportions is for this reason partly of a waygoing sort, and in part (naturally) follows the demand of a large quantity to proportional (re-) articulation. The first large quantity comprises sixty-four semitones. The first, requisite, larger distance claimed, the first great asymmetrical incision lies at the boundary of the upper one-third, i.e., in the circuit of the twenty-third semitone, Example 34.

The boundaries of the quantities oscillate, as previously described. Available pitches, or those acceptable in the harmonic structure, determine the boundary tones. Naturally, the knot-like contraction of several surrounding pitches is also possible, Example 34a.

EXAMPLE 34

The image shows a musical score for Example 34, consisting of four staves. The top staff is in treble clef and contains three measures of music. The first measure has a dynamic marking of *p* (piano), the second *sf* (sforzando), and the third *pp* (pianissimo). A circled '8' is positioned above the third measure. The second staff is in bass clef and contains three measures, with a circled '7' above the second measure. The third staff is in treble clef and contains three measures, with a circled 'mf' (mezzo-forte) below the second measure and a circled 'f' (forte) below the third measure. The fourth staff is in bass clef and contains three measures. The score is set in a key with one sharp (F#) and a common time signature.

In contradiction to such striking proportional sites of juncture or compression, there is an inner intensity in the proportion: the expression of exposed distances, the counter-pressure in the spanning of segments.

Small quantities tend toward the smaller;
 this makes them greater;
 The large quantities tend toward the greater;
 this makes them smaller.
 The large quantity tends toward the small;
 this makes it greater.
 The small quantity tends toward the great;
 this makes it smaller.

These are certain simple modes of action of proportions developing in reaction to each other. This means there are alternative cases in which change of basic quantities operates in the manner of a switch.

(Also, it gives rise to illusions.)

14. The asymmetrical segment at one-third of the large quantity, first formed as a diversion of sound from smaller proportions into the outer

proportion (and sound is nothing other than layering, amalgam); this division releases a whole series of new segments. The basis upon which asymmetrical progressions succeed one another indicates certain definite principles: each segment is never half of the whole. Its boundaries lie at the oblique midpoint, in whose deviations are comprehended the asymmetrical correction of the center.

Extremely different quantities correspond to each other.
 The largest is conditioned by the smallest quantity:
 In the smallest quantity the largest is conditioned.

The reciprocal prerequisite of extreme opposites (here, quantities) leads to their negation in the unity of opposites. The idea of the modified extreme finding a quantity's equivalent opposite quantity: that means, not its excluded, but its included opposite quantity; [which] means that a divisible zone of a quantity's equivalent opposite corresponds to each quantity, or each quantity could support such a zone. This means in addition that in an asymmetrical basic relation, a large quantity as a single unit will stand together in one zone with a small quantity containing many segments; and thus the multiple as a unit must be understood as a basic relation.

What such multisegmented small quantities undertake in one zone is nothing other than graduated symmetries and asymmetrically preceding contractions or asymmetrically progressing expansions. Or there are pre-ordered sequences of asymmetrical arrangements, by compulsion of their nature unruly, inconstant, estranged, sudden, something nongradual, nonprocessual, a ubiquitous extreme synchronicity in space; and indeed, in no place, in no time . . . *since, seen from the entirety of active space, no place can be better than another, nearer or farther, or even the same place twice.* Therefore reiteration is impossible, because infinity, which passes through a small terrain every time, is every time part of something finitely unknown, unpredictable.

What is farthest perceives remote distances in what is nearest, and the close by springs forward into something infinitely close, which, in the mirror image of an ungraspable distance, understands itself as being indistinguishable.

But then, the preordered succession of asymmetrical arrangements is indistinguishable from the unexpected. Man weakens in unmanageable eternity, or grows dizzy in fading differentiation. Thus, everything escapes to the limitation of the organized return of the nonidentical.

The return of the nonidentical
is still the return of the same.
Here sits superstition.

15. The preordered succession of asymmetrical segmentation could suggest many things:

A quantity defines its span, Example 35:³⁰

EXAMPLE 35

The image shows a musical score for Example 35, consisting of two staves (treble and bass clef). The score is divided into four segments labeled A, B, C, and D. Segment A (measures 1-2) has dynamics *pp* and *p*. Segment B (measures 3-4) has dynamics *f* and *f*. Segment C (measures 5-6) has dynamics *f* and *p*, and includes a triplet of eighth notes. Segment D (measures 7-8) has dynamics *pp* and *mp*. The key signature has one sharp (F#).

defines the small quantity, Example 35a:

tumbles over into its thrice-folded span, Example 35b:

shrinks into the next-to-smallest ordering, Example 35c:

divides the remainder in the proportion of the oblique midpoint,
Example 35d.

The comparative of the same quantity is suggested:

A quantity defines its span, Example 36:³¹

EXAMPLE 36

The image shows a musical score for Example 36, consisting of two staves (treble and bass clef). The score is divided into four segments labeled A, B, C, and D. Segment A (measures 1-2) has dynamics *p* and *f*. Segment B (measures 3-4) has dynamics *pp* and *pp*. Segment C (measures 5-6) has dynamics *mf* and *mf*. Segment D (measures 7-8) has dynamics *mf* and *ff*. The key signature has one sharp (F#). There is an 8-measure rest at the beginning of the piece.

defines the small quantity, Example 36a:

tumbles over into its thrice-folded span, Example 36b:

shrinks into the next-to-smallest ordering, Example 36c:

divides the remainder in the proportion of the oblique midpoint, Example 36d:

16. Other rearrangements are proposed which are themselves either previously articulated successions, or in the literal sequence of new successions, Example 36e;

EXAMPLE 36e

The image shows a musical score for two staves. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#). The top staff begins with a piano (*p*) dynamic, followed by a triplet of eighth notes marked with an '8' above a bracket. It then has a measure with a quarter rest, followed by a measure with a quarter note and a half note, marked with a mezzo-piano (*mp*) dynamic. The piece ends with a triplet of eighth notes. The bottom staff begins with a forte (*f*) dynamic, followed by a triplet of eighth notes marked with a '3' above a bracket. It then has a measure with a quarter note and a half note, followed by a measure with a quarter note and a half note. The piece ends with a quarter note. There is a bracketed '7' below the first measure of the bottom staff.

or omissions or parenthetical interpolations of, for instance, an incalculable anarchic moment, or a summary diminutive form of the total proportional sequence, Example 37.³² Or . . . or . . .

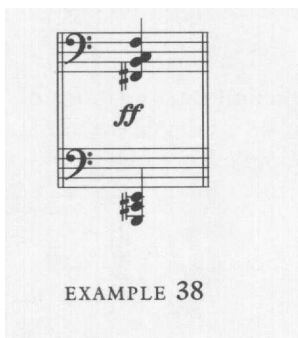
EXAMPLE 37

The image shows a single musical staff in treble clef. The key signature has three sharps (F#, C#, G#). The staff contains a cluster of notes: a quarter note on G#4, a quarter note on A4, a quarter note on B4, a quarter note on C#5, and a quarter note on D5. The dynamic marking is mezzo-forte (*mf*).

17. The smallest steps are proposed, forwards and backwards. The quantity remains standing in oscillation. Local concentrations are generated, similar to the clusters described before. It is the repeatedly self-closing step, the rotating quantity, to which the boundlessly extending, boundlessly open distant quantity follows as an extreme neighbor step. From

this twofold basic relationship a third follows, according to which the inner total distance generated inside their total region or specifically determined single regions asymmetrically adjusts itself. (Even if the proportioning is confined to only one dimension, as in the examples above, nevertheless all other dimensions are latently enfolded. In other words, the one-dimensional partitionings are understood as foregrounds of dimensionally variously distributed and mobile side-grounds, back-, over-, and deep-grounds.)

Each asymmetrical alignment, each proportion which articulates the open quantity (which is to say encapsulates it) defines emptiness, the empty space, the void, the not-sounding. Hence the tendency to separate pitches of intervals from each other; hence the stop as an element directed at distance, at space, at space emptiness; hence the tendency to let one pitch drop quickly when the pitches of an interval are sounded simultaneously: in order to reopen space, to open a limited space to a larger one; hence the similar tendency, in presentation of sound, to reduce the sound to an inner or an outer pitch after the completed presentation; to fix, as it were, a spatial nucleus, a spatial inner or outer contour to an intersection. Often the empty space is a colossal black spot, an almost neutral mass sound, Example 38—the difference isn't too great when proportions are understood as boundary constructions.



EXAMPLE 38

The top note of a total region of sixty-eight semitones, Example 39,³³ initiates a proportional movement of thirteen semitones, Example 39a, followed by five,³⁴ Example 39b, which connects to the comparative (of the large quantity) which spans nineteen semitones, Example 39c, followed by a diminutive (of the smaller quantity) of three semitones, Example 39d, to which an intensified, new comparative of twenty-two semitones is added parenthetically, Example 39e. The sequence concludes as a black spot in the mass sound in order finally to end in two

crumbling major seconds as the superlative of the diminished proportion, Example 39f.

EXAMPLE 39

Such an action model, a proportion sequence within sixty-eight semi-tones—13, 5, 19, 22, 2—in its alternation of increasing separation and increasing contraction, shows specific repeating terms: an intermittently accelerating (i.e., expanding) proportion follows an intermittently retarding (i.e., contracting) proportion. This paired, proportionally inverting type projects its proportions in a changing rate of successive alterations. If, as in this example, the tempo of increasing proportions is disproportionately faster than that of the contracting ones, the small ones will naturally appear substantially smaller, compared with the faster developing large ones.³⁵

Maintenance of proportional activity (in this example, the paired return of inverse partitioning tendencies) does not contradict the code of asymmetrical progressions. The asymmetry of proportional occurrences (like the asymmetry of connections of content in general) demands maximum diversity in the rate of change.

The rate of change includes not only active proportions, but also the entire range of contradictory temperaments among asymmetrical proportions: the suddenly frozen, Example 40; the sudden unwillingness of a pitch to enter any new partitioning: the pitch gets stuck, the measuring spirit is unwilling, Example 40a.

(Really, how can you measure the unfindable?) The pause of the proportion is being stared at in endless antithesis (in a really nightly night the eyes stay wide open!) as well as, all of a sudden, the return of the paired contradiction in endless opposition, in order to tolerate the paired return, to suspend it (not out of gloating) in order to renew the formal sensation!

EXAMPLE 40

EXAMPLE 40a

The image contains two musical examples. Example 40 is a two-staff piece in G minor. The upper staff begins with a treble clef, a key signature of one flat, and a 3/4 time signature. It features a triplet of eighth notes (G4, A4, B4) marked *pp*, followed by a quarter note (B4) marked *mf*, and a quarter note (C5) marked *f*. The lower staff begins with a bass clef and a 3/4 time signature. It features a quarter note (G3) marked *p*, a quarter note (F3) marked *ppp*, a quarter note (E3) marked *ff*, and a triplet of eighth notes (D3, C3, B2) marked *pp*. Example 40a is a two-staff piece in G minor. The upper staff begins with a treble clef, a key signature of one flat, and a 3/4 time signature. It features a half note (G4) marked *mf* and a half note (A4) marked *f*. The lower staff begins with a bass clef and a 3/4 time signature. It features a half note (G3) marked *mf* and a half note (A3) marked *f*.

No difference is so absolute that it can do without the condition of its difference. Nothing but the contradiction is guaranteed, yet unreliability is the character of contradiction. (So contradictory is contradiction.)

Asymmetry is not born in sleep. Questions are not asked in sleep. This means that symmetrical midpoint formations, too, are necessary means to stir up quantities, to turn quantities, to claim the total asymmetry of proportional occurrences and connections, to secure for art the trick of art—no! the trick of living; to idealize the impossible in art; not as untouchable dogma, but as reality touched upon, non-possible [*ent-mögliche*] reality.

There is no magic golden section of asymmetry. As infinity holds good anywhere, and this means infinitely, this means irretrievably, so asymmetry holds good in every relation, since it forces its infinity onto space, holds a never retrievable whole in readiness, this *whole* which is in each instant the endlessly fleeting, vagrant sum of unequal parts.

18. In the previous example, where the principal action-forms conditioned the establishment of relations, space is now apportioned in regulated distances. What was originally conceived as a single-membered, one-dimensional, asymmetrical one-after-the-other now manifests itself multispatially: a multimembered, multidimensional Other is generated: an under-over-against-linked-with, against in-one-Another [*ein unter-über-gegen-miteinander, gegen ineinAnderes*], Example 41.

The image shows a musical score for Example 41, consisting of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is written in a key with one flat (B-flat). The score includes various dynamics such as *mp*, *f*, *ff*, *mf*, *fff*, *p*, and *mf*. There are also articulations like accents and slurs. Specific markings include a '3' over a triplet in the first staff, a '5' over a quintuplet in the second staff, and a '7' over a septuplet in the third staff. A '7:8' marking is present at the end of the fourth staff. The score is labeled 'EXAMPLE 41' at the bottom.

Spatial orientation begins: as with the eye,³⁶ which, looking forward, surrenders to the peripheral flux; which, looking upward, overtakes a next higher point in the middle view of a deeper lying horizon; as with the eye, whose proportional sense feels out the totality from hundreds of spatial origins, which is fixed by hundreds of points in a curve by leap and counterleap, and which circulates a thousandfold in fixation; which claims for the fixated smaller view the thousandfold circulation of the total view, and which claims for the total view the smaller view contained in its thousandfold curve: pitch space, traced in the example in originally specified distances and directions of progress, is now—like visual space—entered on all sides: the ear, no differently from the eye, seeks to unfold in the multidimensional directions of pitch space, or seeks to fold these in their multidimensional aspects.

The proportions of the audible and visible proportions
 are twins of one and the same totality:
 the formal proof of unalterable nature,
 and of the nature of confused, inconsistent
 realities. The pathos of the unintentional arrangements
 of the wastepaper basket, the disorderly table—
 the general formal nature of the street scene, alienated
 synchronism, such pathos is the equivalent
 of a different, formally intended arrangement.
 Everything becomes the language of formal distinction, and
 the language is concrete, like the hieroglyphics of stones,
 or the distinct, engaged proportion of pitches. And
 proportions in dynamic space, or in the
 time-space or form-space of the asymmetry of occurrences
 submit to the same tendencies (or rational observations).

19. The leap out of causality, i.e., out of the mediating transition, sets free the theater of all things, all situations, all thoughts. Not that thoughts, situations, and things would then be free—only optimal degrees of arrangements make possible such sufficient, since self-fulfilling freedom. Acausal freedom is the direct connection in motion of mutually alienated worlds of things, situations, and thoughts. All these worlds are connected without friction; because frictions become isolated and frictions become sensations.

The cry of the victim is isolated from the victim,
 Speed from the cause of speed,
 The shout is shouted in an airplane and
 The airplane is borne by bees.
 The imagination is unredeemable.

20. How should the transparency of glass save itself from the bookends, or the chimney from the shoe, or Picasso from the pyramids? The claim that at one time was put on God's shoulders—to be ubiquitous and completely accessible, so that things, situations, and thoughts should not fall away from each other—now takes place under the sign of a more moderate and better advised god, where things, situations, and thoughts see themselves, become responsible for themselves, look after themselves.

But what does the chimney see in the shoe? The joy and torment of addition begins. One will never be done with it. For what is added simply

never comes to terms with itself: an unfulfillable addition. Like numbers that don't know what to do with themselves. Put the piano lid on the lion's belly, go through a page. It is the poetry of the impossible, since, in order not to betray itself, the impossible must be poetic.

21. In the poetry of words, things have announced their own impossibility for a long time now. The intention is to combine everything together, to bring everything into temptation from everything else; either by parable, or vis-à-vis aspects relentlessly selected and emancipated. You do not see a page without going through it (just as you go through the eyes, or through a sound). You are where you judge yourself to be.

In the core of an apple,
 At the window of the forty-second story in New York,
 You put the window panes in the core of the apple,
 You shout, you're lost in a crowd of voices,
 You go, you say the alphabet, *a, b, c, . . . s, k, m . . .*
 Where are you?

22. You are spread over the entire space of earthly reference fields, where things, situations, and thoughts are isolated, alienated from each other, there relations are established, the unrelated is seduced, is conjured and reinterpreted into a fullness of relations. It is a question of curiosity, willful curiosity. Also a question of love: to order things in a new temporal space, to overhear the play of liberated sensations, to take notes in the dark, to partake of the endless encounters of things, situations, and thoughts; to overhear their resonance, their whisper speech, to experience their motions; ghostly atmospheres—uprooted, contoured, central pulse—secret signs, something in vain, something dying, indescribable, ungraspable metamorphoses:

a leaf that got caught in the mouth,
 a pitch that vanished behind stillness
 to look in opposite directions—
 to come to conclusions.

23. Just as the biblical lamb and lion lived in (not understood) concord, although in contact with one another, so the endless varieties of things, states, and thoughts support one another: *because everything is everything to everything.*

The moment often arrives in the conflict of such associations of things, states, and thoughts alienated from each other, when it is too short, too short, and the moment doesn't end, often never ends: the often and never cohering moment: the never cohering moment.³⁷

Thus the break as a continuous formal feature, thus fields of dynamic disturbances, their contactlessness; thus the instantly twofold, three fold, x -fold, manifold, because it is the multiscanning eye, the multi-listening ear; and because multidimensional space doesn't run on tracks, but in the intersection of simultaneously antithetical directions which arrange this space in endless and continuously antithetical directional or spatial phases.

24. Thus also *double content* in the smallest phase of action. Thus the totally engaged space, the total spatial disposition. Therefore hundreds of zigzags, polycurves, multispatial proportions, only to articulate the only dispersing and collapsing space. Thus rotating in unfoldings, contractions, in ever renewed layerings. Because each proportional instant is the complementary, jointly conditioned position of every other one.

25. Dissociations of events, nongradual alterations, decentralization, or the totality as the center. Rapid change towards many new centers, their change, their extinction; entanglements, simultaneous manifestation of organically different conditions, in the sense of an all-inclusive level of language, from the pre-beginning of the rational up to the tipped over or shaken out human brain, in whose arches everything necessary is enclosed, beginning with excesses of restraint, and ending in excesses of exaggeration, or in the sense of an unsurpassable extreme where something begins to be unchangeable.

If pitch space is omnilateral-translateral-transomnilateral, the omnilateral richness of an occurrence is its corresponding equivalent. To move in all directions, since all aspects are exposed in a space of all-sided viewpoints, results in the totalizing, multidimensional image. All is connectable, where there is no hierarchically determined order; and all becomes, at the same time, prophetic, universally revealed, and manifest. For how could the eye or ear be limited in such all-sided transparently open space?

26. Events move in multidimensional spatial formations, multiply exposed and multiply entangled. Events, constructed in specific proportions of circumference, equality, asymmetrical curves, accumulations,

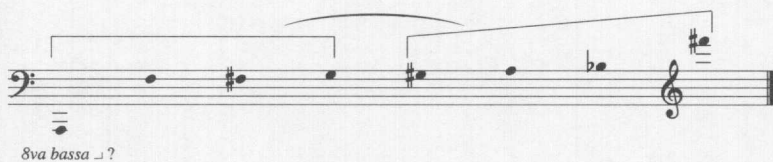
dissolutions, dispersions, disturbances; isolated or simultaneous. Expressive musical phenomena regenerate. You hear around you the cold, the shabby, the hard, the sudden, the inanimate, the rigid, the confused, the joke, the excess, the dense, the dropped, the completely general, the unlayered, flat, the extraordinary, multilayered, the loose, the loathsome, the disorderly, nothing, much, the perpetual, the eternally interrupted, the shock and the extensive antithesis, the simultaneous, the quotation, the noise: *Specific organic expressive structures are united with specific material constellations.*

27. In a total-dimensional pitch space, with all its endless aspects of phenomena, there are equally endless possibilities of choice, for which there are an equally great number of necessities (or none, or postponable ones); this also means a sequence of arbitrary actions, even within the rules of choice or their compulsory forms (which sublimate or disrupt eternity).

Darmstadt, 14 July 1960

NOTES

1. Wolpe was deeply influenced by Klee's Preliminary Course at the Bauhaus. See "Notes on Proportions" (1959), ed. Austin Clarkson (unpublished), 3.
2. Stefan Wolpe, "Thinking Twice," in Elliott Schwartz and Barney Childs, eds., *Contemporary Composers on Contemporary Music* (New York: Holt, Rinehart, and Winston, 1967), 274–307, and "Notes on Proportions."
3. Example 2. $E\flat$ D E F (piano II) are the first four pitch classes of Example 1. Here, they appear displaced into new octave positions and separated by rests ("mutely").
4. Example 3. $E\flat$ D E F $C\sharp$ (Piano II) are the first five pitch classes of Example 1.
5. Example 4. Piano II $E\flat$ D E F retain their registration in the previous example, but form the highest pitches of four clusters. These are "extensions" of the "volume of the step."
6. I.e., the chicken and the egg (colloq.).
7. *Two* inner areas, apparently: E_6 , $D\sharp_4$ (25) and $C\sharp_4$, C_2 (25).
8. Example 8. "Less proximately:" the first two midpoint-hinge areas— $F\sharp_6$, E_4 (26) and C_4 , $C\sharp_2$ (23) a total span of 49—widen to $F\sharp_6$, $B\flat_3$ (32) and F_3 , A_1 (20), a total span of 52.
9. Example 8a is an unfolding of the second part of Example 8. This example would be completely symmetrical if A_1 were A_0 , suggesting an omitted octave sign (brackets show symmetries).



10. Example 9b-e. Symmetrical proportions:

9b

Musical notation for Example 9b, showing symmetrical proportions in a treble clef. The staff contains a sequence of notes with brackets and arcs indicating symmetrical relationships.

9c

Musical notation for Example 9c, showing symmetrical proportions in a treble clef. The staff contains a sequence of notes with brackets and arcs indicating symmetrical relationships.

9d

Musical notation for Example 9d, showing symmetrical proportions in a treble clef. The staff contains a sequence of notes with brackets and arcs indicating symmetrical relationships.

9e

Musical notation for Example 9e, showing symmetrical proportions in a treble clef. The staff contains a sequence of notes with brackets and arcs indicating symmetrical relationships.

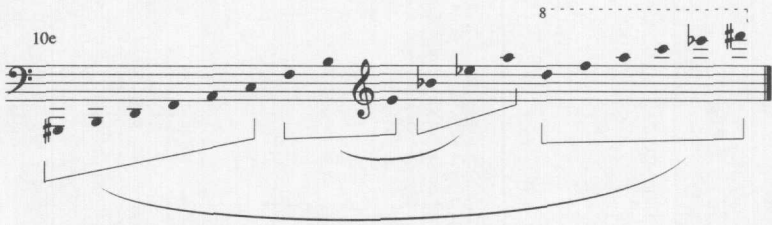
11. Example 10-10c. Total symmetry:

10-10c

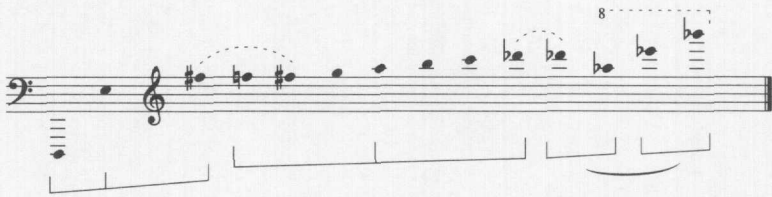
Musical notation for Example 10-10c, showing total symmetry across two staves. The left staff is in bass clef and the right staff is in treble clef, with brackets and arcs indicating symmetrical relationships between notes.



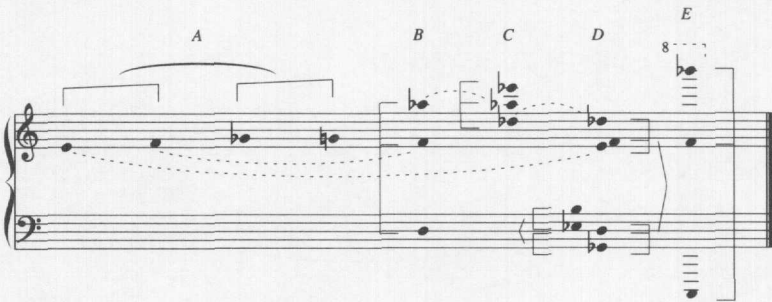
Example 10e:



12. Example 11, 11a. Example 11a is an arpeggiation of Example 11. Interlocking symmetries:



13. Example 12. The exchange of the functions of “bottom” and “top” pitches: $D\flat_4$ is the bottom of symmetry C and the top of symmetry E. Outsides can become midpoints, e.g., $A\flat_5$ in symmetries B and C.



14. Example 13. Dotted lines show the “middle transformed to upper and lower outsides” (i.e., G_4 in the first two symmetries, and D_5 and F_5 in the last two), which are “shut together” in the cluster in Piano I at the final quarter note.

The musical score for Example 13 consists of three staves: a top treble staff, a middle bass staff, and a bottom piano staff. The piece is divided into four sections labeled A, B, C, and D. Section A shows a cluster of notes in the treble staff. Section B shows a dotted line connecting a note in the treble staff to a note in the bass staff. Section C shows a dotted line connecting a note in the bass staff to a note in the piano staff. Section D shows a cluster of notes in the piano staff. Interval numbers 6, 13, and 5 are indicated between notes in the piano staff.

15. Example 14. Dotted lines show how “outsides flip over into new middles,” i.e., G_4 in the first two symmetries, D_3 in the last two. “Middle” here probably means not just the midpoint but the middle areas of the symmetries. Interval numbers are given for nearly symmetrical proportions.

The musical score for Example 14 consists of three staves: a top treble staff, a middle bass staff, and a bottom piano staff. Dotted lines connect notes across staves, illustrating transformations. Interval numbers 5, 6, 13, and 14 are indicated between notes in the piano staff.

16. Example 15, 15a. Example 15a reproduces the entire contents of Example 15, adding new proportions and completing symmetrical structures. In the following chart, white noteheads indicate pitches in Example 15; black noteheads show pitches added in Example 15a.

17. Example 16. Symmetries:

18. Note the uncanny similarity to the following passage, and the one in footnote 19, most probably neither of which Wolpe had seen:

Movements that lead to balance and end in balance are not free, the vertical imposes certain conditions on them. . . . It is incorrect to state that "static" means "at rest" and that "dynamic" means "in motion." For "static" can also mean "in conditional motion" or "becalmed motion," while "dynamic" can mean "in unconditional motion."

(Paul Klee, *Notebooks Vol. I: The Thinking Eye*,
trans. Ralph Mannheim, ed. Jürg Spiller
(New York: George Wittenborn, 1961), 359.)

Example 18. development of Example 17h, with additional bordering pitches (e.g., Piano II C5 measure 1).

19. Planes produced by lines entering into relationships with one another (e.g., as one sees stormy watercourses) or spatial structures produced by energies related to the third dimension (swarming fishes).

(Klee, *Ibid.*, 78)

20. “Negated antithesis” (*aufgehobenen Gegensatz*): this arch-Hegelian formulation can also be translated as “suspended antithesis,” recalling the “suspended center” of the previous paragraph. Suspension (*Aufhebung*) implies both the termination (negation) of a dialectical process and its elevation to a new level.
21. Examples 19–21 illustrate the “all-centric cluster linked with isolated and asymmetrical distances.” In Example 19, first part, the F_6 is isolated from its cluster by octave displacement. If it were relocated, the cluster would be entirely symmetrical. However, the $B\flat_3$ in the second part of the measure would not complete a symmetry. (Measure two is an arpeggiation of measure one):



Examples 20–21 show other “asymmetrical distances” linked to clusters. In each case the second half of the measure is an unfolding of the first half. Note the octave displacements by which the clusters are unfolded in Example 20, e.g., Piano I first quarter-beat D_3 E_3 $F\sharp_3$; fourth beat D_4 E_4 $F\sharp_4$, et cetera.

22. Example 22. “incorporated distance” (D_1 to G_5) “de-forms” into “multiply divided” C_4 $D\flat_3$ in Piano I and C_4 $C\sharp_3$ in Piano II. “[O]ne of these segments”: unclear.

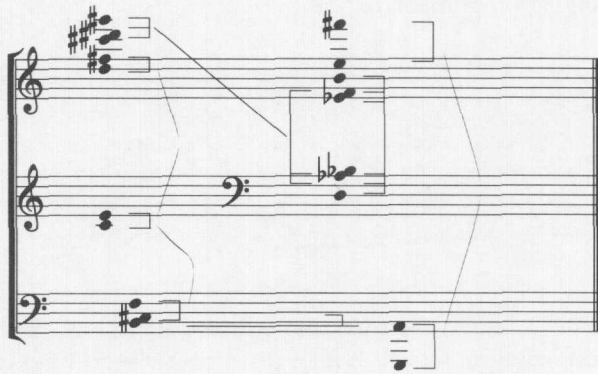
23. Example 23. "Multidimensional" asymmetrical proportions, freed from restriction to both the cluster formations of Examples 19–21, and the "segmented" asymmetrical distances of Example 22. There is no Example 23 in the German text.
24. Approximately, the seven successive octaves from A_0 upwards.
25. Example 25. Possible symmetrical proportions (sharing the midpoint E_4):



26. Example 26. Symmetrical proportions:



27. Example 27. Symmetrical proportions:



28. Examples 33–34a. "Pitches obtained by subdivision": $G\flat_4$ G_5 F_6 ; the "upper third": $G\flat_4$ to $F_6 = 23$; the "top pitch of the greater quantity": F_6 ; the "adjoining small quantity": A_6 $G\sharp_7$ $B\flat_7$.

29. 34a: letter indication missing in original example, but a hand-written word cue for the players indicates its location in Example 33.
30. Example 35. Quantity: $E_5 B\flat_1$. This quantity embraces the example.
 Example 35a. Small quantity: $D\sharp_5 G_4$.
 Example 35b. The original quantity, a tritone ($E_5 B\flat_1$) spanning three octaves (“thrice-folded span”), “tumbles over” into a simple tritone $G\sharp_3 D_3$.
 Example 35c. “Next-to-smallest ordering”: $A_2 B_2$. (Next-to-smallest because a major second rather than minor second).
 Example 35d. “Oblique midpoint”: $C\sharp_2$.
31. Example 36. Quantity: the interval $G_6 F\sharp_1$ (also the entire range of the example).
 Example 36a. $B\flat_6 B_7$ is the small quantity, and also the “comparative of the large quantity” because it is a simple, as opposed to a compound, minor ninth.
 Example 36b. The original quantity, $G_6 F\sharp_1$, a compound minor ninth (although “fourfold,” in fact), “tumbles over” into $G\sharp_4 A_5$, a simple minor ninth.
 Example 36c. “Next smallest ordering”: $D\sharp_4 C\sharp_4$.
 Example 36d. G_2 is the oblique midpoint.
 Example 36e. The proportion row is recapitulated with some changes in order and content.
32. Example 37. “Summary diminutive form”: a simultaneity containing all pitches in Example 36e, omitting A_5 .
33. Examples 39–41. A proportional sequence is developed in Example 39 (including, at 39d, the “black spot,” Example 38). This sequence is unfolded in Example 41. These examples maintain the octave positions of the initial proportion row which functions as a kind of *Urlinie* for Example 41, a polyphony of various planes of activity. Cf. Example 11 and Example 11a, an arpeggiation of a symmetrical proportion. (In the original manuscript, the original Example 41—omitted here—duplicates the original Example 40, adding interval numbers).
34. “Six” in German text.

35. Example 39:

total region	68	$B\flat_6, D_1$	Example 39
first "proportional movement"	13	$B\flat_6, A_5$	Example 39a
[small quantity]	5	A_5, E_5	Example 39b
comparative of large quantity	19	$E\flat_5, A\flat_3$	Example 39c
diminutive of smaller quantity	3	$A\flat_3, F_3$	Example 39d
new comparative	22	F_3, G_1	Example 39e
crumbling major seconds	2	$G_1, F_1, E\flat_1$	Example 39f

Expanding proportion: 13, 19, 22

Contracting proportion: 5, 3, 2

The "large quantity"— A_5, D_1 (55)—equals a compound perfect fifth; the "comparative" of the large quantity— $E\flat_5, A\flat_3$ (19)—is another compound fifth, one octave smaller.

"Intensified new comparative" (22): interval relation ambiguous.

36. Thus the eye, like a grazing animal, feels out the terrain not only from top to bottom, but also from left to right and in all directions for which it feels the need. It travels the paths laid down for it in the work, which itself came into being through movement and became fixated movement.

(Klee, *Ibid.*, 359)

37. In English the second time.