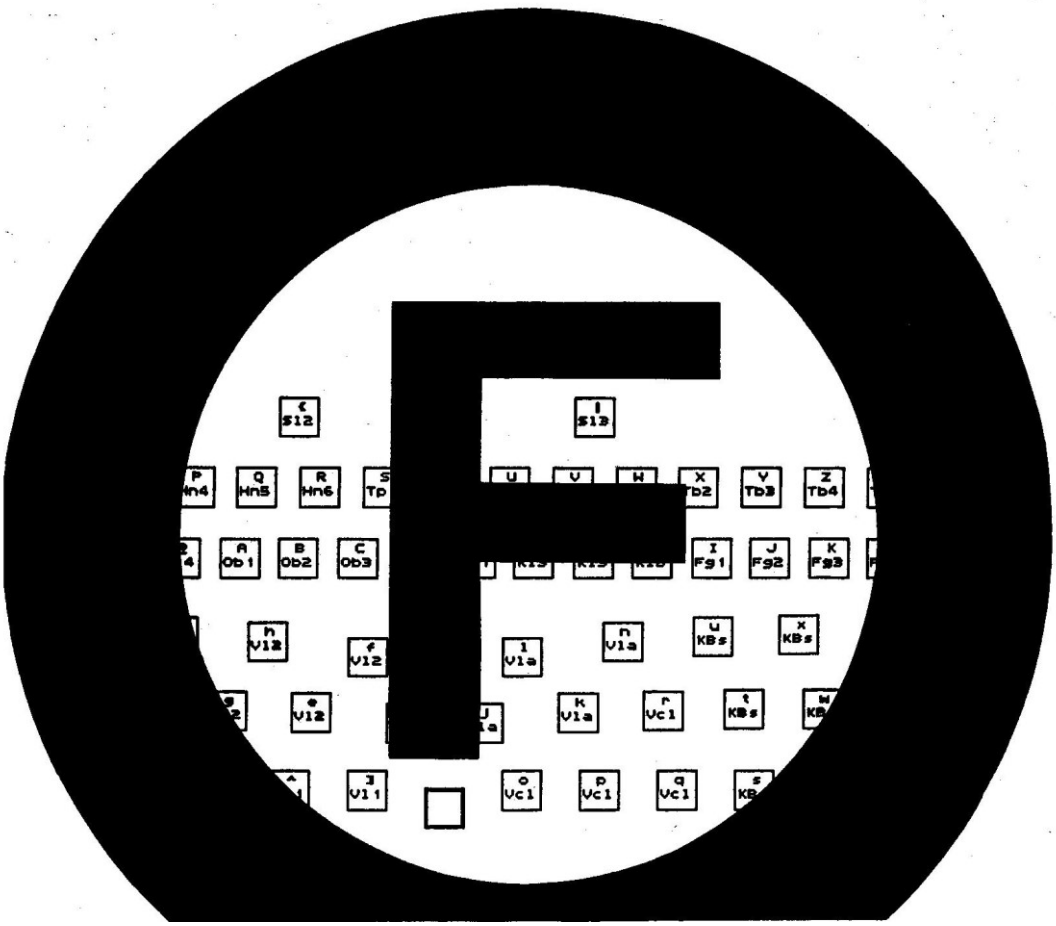

Clarence Barlow

on

ORCHIDEÆ ORDINARIÆ

OR THE TWELFTH ROOT OF TRUTH

for large orchestra

(1989)

Technical Programming Details, Compositional and Socio-Cultural Aspects

36

Translated from the German by Casey Mongoven, further translation, editing, layout by Clarence Barlow

FEEDBACK PAPERS

CLARENCE BARLOW

Born in 1945 into the English and English-speaking minority in Calcutta. He has been composing since 1957, at the same time as his first involvement with the natural sciences. From 1966-68 he was a music theory instructor and conductor of a madrigal choir and a youth string orchestra, and had his first intensive involvement with North Indian art music. At that time he composed primarily with twelve-tone rows. In 1968 he moved to Cologne. In 1971 he began using stochastic methods of composition and utilizing a computer in composition. In 1972 he began to use new analytical techniques regarding the phenomenon of tonality. From 1973-75 he had a sojourn in India, conducting, giving lectures and was intensively involved with Indian music. In 1978 he established a comprehensive theory of tonality and meter (first used in Cogluotobüsisletmesi): *Bus Journey to Parametron* (Feedback Papers 21-23). Since 1985, he has been Lecturer on Computer Music at the Music University in Cologne. In 1986 he co-founded GIMIK: Initiative Musik und Informatik Köln e.V.

PUBLICATIONS (selection):

Sinophonie II, in: FEEDBACK PAPERS 6, Cologne 1973 (reprint pp. 138-141)

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Tröttels Trauma, ein rohmahn, in: FEEDBACK PAPERS 18, Cologne 1979, p. 3

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**SC-Manual* (description of a computer program of CB's for notating music), in: *Darmstädter Beiträge zur Neuen Musik 19*, Mainz 1984, pp. 67-80

Über die zwei Arten von Computermusik, in *MusikTexte 6*, Cologne 1984, pp. 27-28

Willkommen in BYTEschland! (conversations with the leading computer music musicians in the German-speaking countries), in: *MusikTexte 6*, pp. 30-37

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Der Hofmathematiker und die Musikantenbrüder, in: *Zeitschrift für experimentelle Musik (*published by Stefan Wunderlich), Issue 2, Munich 1985, pp. 4-5

Thorough catalog of all publications of and about Clarence Barlow and all available recordings (until 1985) in: Neuland 5, published by Herbert Henck, Bergisch-Gladbach 1984/85, from p. 60 onward.

PREFACE

Three lectures on *Orchideæ Ordinariæ* that the author gave form the basis for this text: on 11/29/89 (aspects of programming) and 11/30/89 (compositional methods) at the Music University of Cologne, and on 12/4/89 (general considerations) in Feedback Studio Cologne.

INTRODUCTION

Instrumentation and Form

This 35-minute piece was written in summer 1989 at the invitation of the *Südwestfunk* (South-West Radio) in Baden-Baden, commissioned for 8,000 German Marks. It is written for:

4 flautists (also with piccolo flutes)
4 oboists (also with English horn)
4 clarinetists (also with E-flat and bass clarinets)
4 bassoonists (also with contra-bassoon)
6 horn players
4 trumpets
4 trombonists
1 tubist
1 pianist
13 stands, each with 2 violinists
5 stands, each with 2 violists
4 stands, each with 2 cellists
6 contra-bassists
1 timpanist as well as
3 additional percussionists

This makes for a total of 86 musicians at 64 stands. Every stand receives its own sheet music: the strings are for the most part divided.

The piece consists of the following seven movements:

I. Chorale
II. Périgord
III. Hornpipe
IV. Exsequor
V. Orchidea
VI. Scorpio
VII. Pandora

About the Title

Orchideæ Ordinariæ (ordinary orchids) could be a colorful type of orchid found in a biology book. The title (the composer CB reveals) means ‘orderly’ (acceptable), ‘ordered’ (structured) as well as ‘ordinary’ (typical) orchestral ideas. About the tongue-twister-like subtitle *The Twelfth Root of Truth* is at best, to be truthful, a reference to the half-step,* building block of chromaticism and as such a colorful (*chroma* = Gr. ‘color’) symbol of European music history for more than the last three hundred years. Chromaticism can be explicitly perceived at least five times here, the first time at the beginning in an introduction to *Chorale*, as a chromatic scale spanning a minor seventh played by low strings.

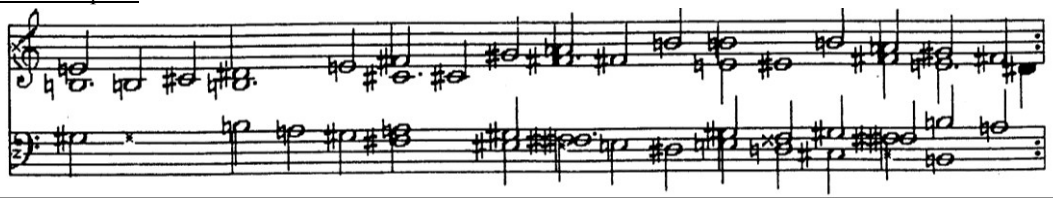
* Two tones having a frequency relationship of $1:\sqrt[12]{2}$ create a half-step.

I. CHORALE

The Form

Chorale is an E major passacaglia based on a harmonic sequence repeated 19 times. The cycle of 18 fundamental beats divided into sextuplets (i.e. 108 pulses which form 12 measures in 9/8) is derived from a chorale phrase written by CB himself, which is played explicitly at the end of *Exsequor* by trombones (↑Note Example 1). The 60-part (!) passacaglia stylistically follows the music of Pérotin, e.g. his masterpiece *Sederunt Principes* (1199).

Note Example 1 Chorale



The Content

Music of times past embedded in contemporary music? (As will be seen, *Orchideæ Ordinariæ* often makes reference to music of other composers). Composers that draw on works of literature and set a text by James Joyce or Pablo Neruda pay homage to these works in that they – unable to leave them in their original form – necessarily must accompany and illustrate them through music. CB finds himself in a clearly similar position: out of a purely nostalgic longing for times in which music literature brought forth true "masterpieces", he incorporates a few paramount examples of great music in his work and functions for those couple of minutes as concert organizer in order to share this music with the listeners – to make a reference to it.

In this regard, he did not quote Pérotin directly but stylistically: the immense density as well as the fact that the individual parts know nothing whatsoever of one another represent deviations – it is about CB's paying homage to the masters, albeit in quasi-surrealistic transcendence. The music of *Chorale* is bluntly harmonic – CB seems to lack the connection to (contemporary?) atonal methods of composition. On the other hand, he asserts that he does not foster any (more contemporary?) neo-romantic reversion to aesthetically comfortable things of the past; for him, it is not as if everything in the last 20 to 80 years did not at all take place.

Subjective Pitch Perception (a digression into aural physiology)

In non-intervallic hearing (e.g. of noise), large distances in lower registers have an effect similar to that in high small distances. The leaping of successive sounds averaging a mutual distance of an octave around 100 Hz is comparable to those averaging a minor third at around 2000 Hz on. Scores of Bach, Dvořák, among others, reflect this phenomenon in the movement of the instruments: analyses show that the bass line contains more leaps than treble not only because of the fourths and fifths which lend themselves to the harmony, but rather clearly because of the arrangement of hairs of the basilar membrane – in the region of lower frequency the hairs are considerably less densely arranged than for the more differentiated higher frequency ranges. This explains the difficulty of tuning a contrabass without the aid of harmonics.

This phenomenon is applied here: the middle registers of the 60 instruments are orchestrationally correctly distributed throughout the complete register of the orchestra, however not in terms of thinking objectively in half-steps, but according to subjective perception – the lower they are, the further apart they are from one another and the more leaps there are. Subjective pitch is calibrated according to the *Bark* scale and covers the entire hearing range of 0 to 24 Barks, where there is an approximate, empirically derived equivalence between Bark and Hertz: 100 Hz ≈ 1 Bk (= 'Bark'), 200 Hz ≈ 2 Bk, 300 Hz ≈ 3 Bk, 400 Hz ≈ 4 Bk (up to here like an overtones series), but 500 Hz is just under 5 Bk, 1000 Hz ≈ only 8 Bk, 2000 Hz ≈ 13 Bk, 5000 Hz ≈ 18 Bk … at 20 kHz one arrives at approximately 24 Bk. For *Chorale* the orchestra's range was divided into 60 subjectively equidistant 'Barkings,' which are then converted into Hertz and into note names and serve as the middle register of the instruments.

In the score* it can be seen that the full 60-part harmony only occurs shortly before the end of *Chorale*; the beginning takes the shape of a monodic melody in the 3rd clarinet. CB had imagined a music which emerges relatively thinly somewhere in the orchestra and then wanders around – for this the seating arrangement of the musicians is prescribed (↑Figs. 1, 7, 8 – the violin stands are, according to tradition, divided into first and second violins; they are, however, only heard in this sense in parts of the the 4th and 5th movements. Note the 64 stand symbols, in part letters, in part punctuation and things similar – they are used in the instrumentation plans in Figs. 2b/2 [see next page] and 6/2).

Fig. 1 Movement of the center of gravity in the orchestration of *Chorale*

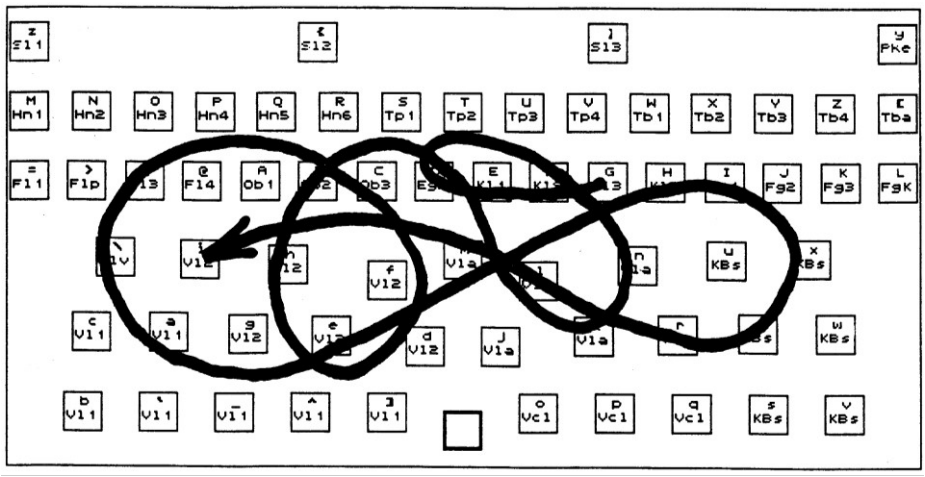
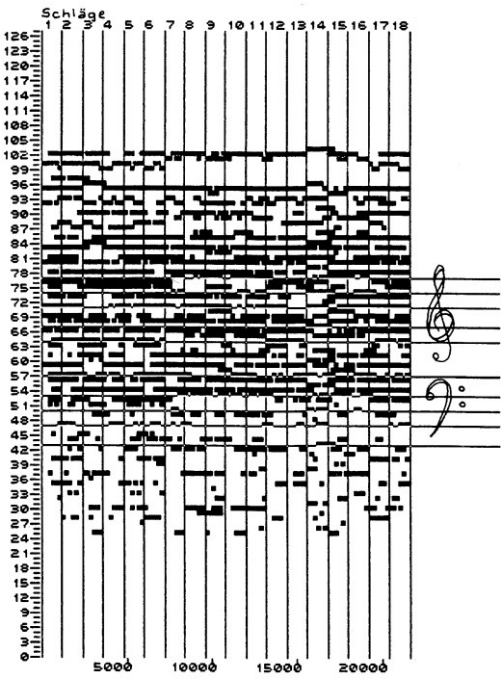


Fig. 2a first **unfiltered** cycle from *Chorale*



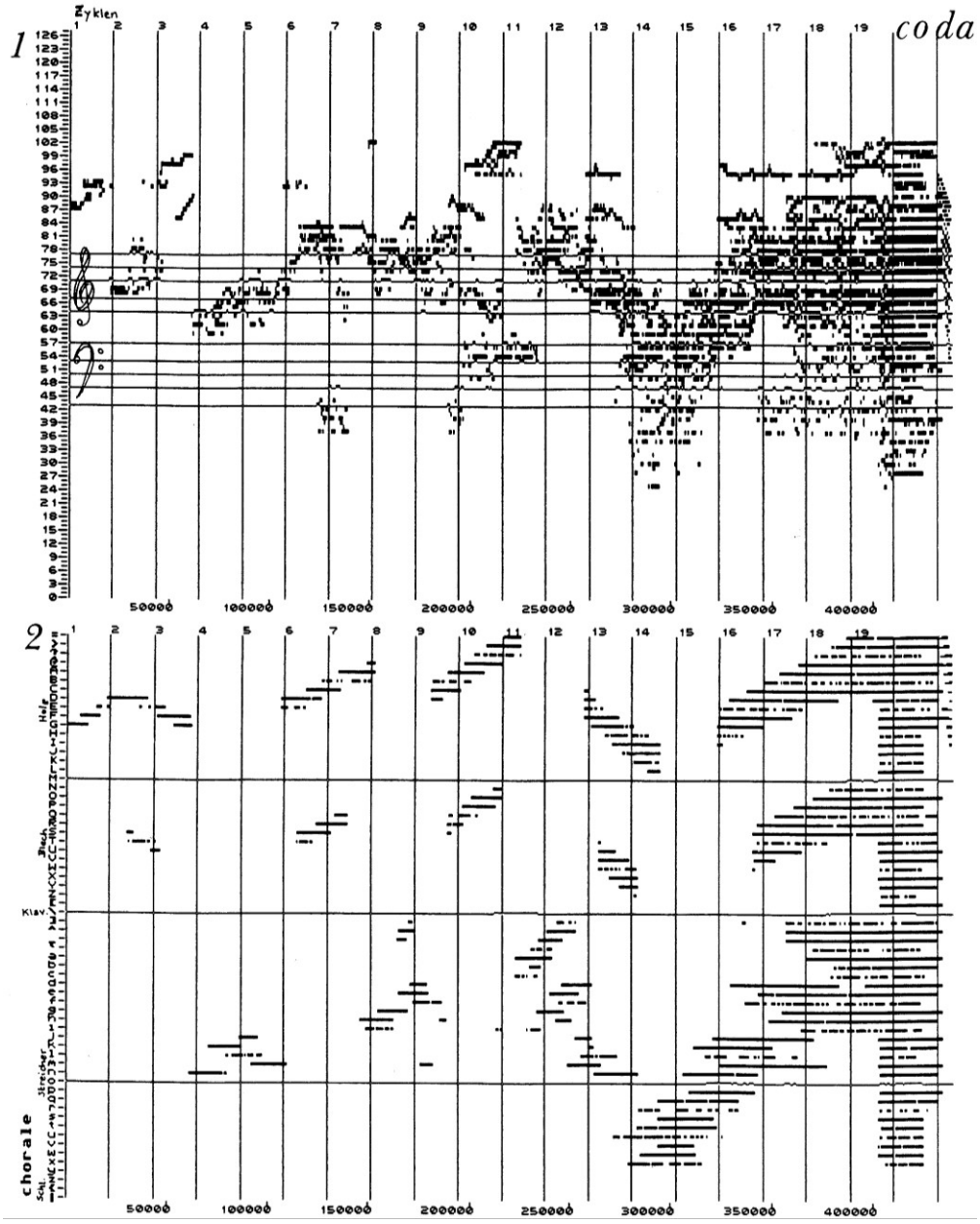
'Dance place': this is the original, Greek meaning of the word 'orchestra,' which is reflected here in its appearance as a two-dimensional spatial field of motion. The selection of the 3rd clarinet was made – according to CB – spontaneously in the spatial dimension; no precedence is shown over it by the 1st clarinetist – all orchestral musicians were treated as equally important, diverging from the usual soloistic-hierarchical principle.

CB drew free hand the squiggly line in Fig. 1. In the course of this line the radiating effect of the 'squiggle' increases in such a way that, gradually, not just a single musician is playing – the 'guiding thread' that makes its way through the orchestra broadens; chamber music ensembles are formed which slowly make their way through the orchestra without anyone having to stand up: while one musician on the rear side of the moving group secedes, another in the front enters.

The full 60-part passacaglia served as a point of departure; in fact, 60 parts were composed through 19 cycles and these were then hollowed out later in order to release the remaining material. Fig.2a shows the first cycle of the untreated passacaglia as a pitch/time graph (here in milliseconds on the X-axis) – vertical lines separate the beats; Fig.2b shows the complete filtered passacaglia with pitch (1, above) and music stands (2, below) on the Y axis – here the cycles are divided by means of vertical lines. Every instrument plays music appropriate to its range; thus the music is necessarily lower in pitch

when the squiggle reaches the bassoons, contrabasses and celli on the extreme right of the orchestra … and the opposite with the flutes on the left. It can be seen in Fig.2b/2 when each instrument appears for the first time: the tubist, for example, after almost seven minutes. The first horn player to enter is number 6, because he or she, sitting on the right side, is the first to be reached by the wandering squiggle, before the other horns; in this, the generally non-soloistic treatment of the orchestra can clearly be seen.

Fig. 2b map of pitch/time (above) and instrumentation/time (below) – "Zyklen" = "cycles"



At the squiggle's end, at the mid-point of the left half of the orchestra (approximately at stand 'i'), the squiggle's influence covers exactly that half; here, shortly before the end of the 19th cycle, the right half of the orchestra suddenly enters at once – a dramatic moment, after which the entire orchestra continues to play together. The arrival at E major after the last cycle is celebrated for six measures more – after the following triumphant cadence with piccolos and contrabasses on a pedal point, everything fritters away while a remarkable figure appears in the woodwinds.

The 1st Ghost: 'Glass Cylinder'

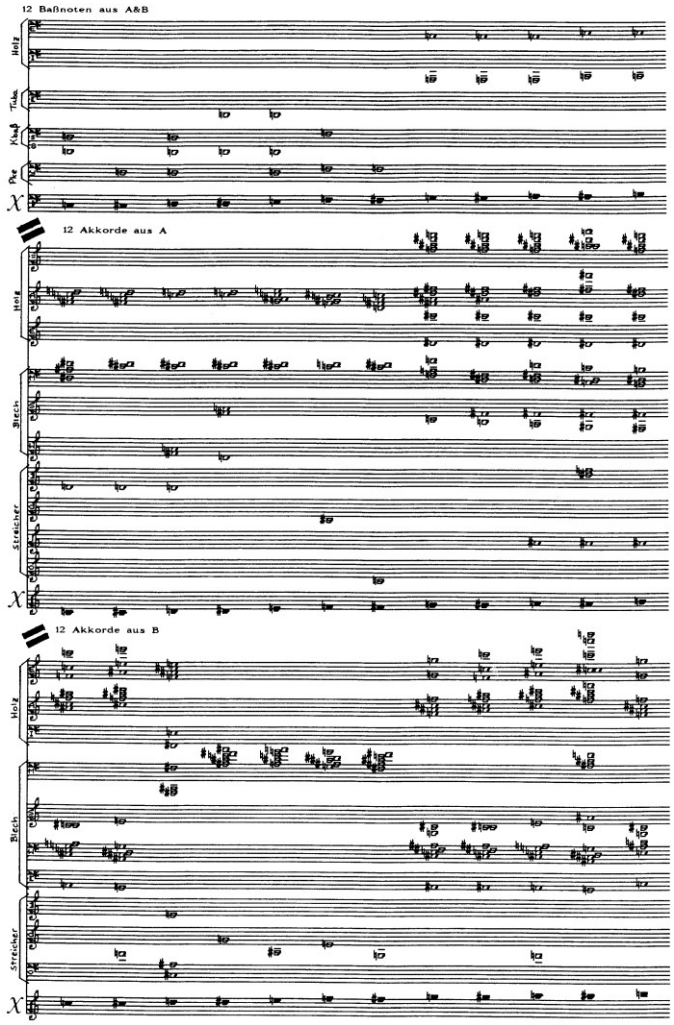
This descending pitch sequence is one of three 'ghosts,' each of which appears three times in the course of *Orchideæ Ordinariæ*. The music resembles a twisting and eternally sinking 'Glass Cylinder': while the form drifts downward, new pitches enter imperceptibly from above. CB is said to have once dreamed such a music; when he awoke, it was still so fresh in his memory that he was able to reconstruct it on his computer. One says the insertion of this dream element is a greeting to his former teacher Karlheinz Stockhausen, who often tended to transform his dreams into music. 'Glass Cylinder' occurs three times: here (measure 243, in the 8th minute), in *Exsequor* (measure 554, 20th minute) and in *Scorpio* (measure 752, 26th minute).

II. PÉRIGORD

24 Chords, 12 Bass Pitches

The word *Périgord*, probably referring to a culinarily famous region in South-West France, also contains the sound *per Igor* (for Igor), with which Stravinsky is meant. The movement consists of a series of chords derived from *Le Sacre du Printemps* (*The Rite of Spring*), namely from the *Danse sacrale* (*Sacrificial Dance*) at the end of the work. It was found that considerable sections at the beginning of this dance (Rehearsal Nos. 142-148) contain no more than twelve significantly different chords (↑Note Example 2a); due to this they were 'numbered' with the twelve notes of the chromatic scale – the 12 chords could be entered into a computer (with slightly different orchestration) in such a way that they depression of a note on the keyboard produced the corresponding chord on a synthesizer.

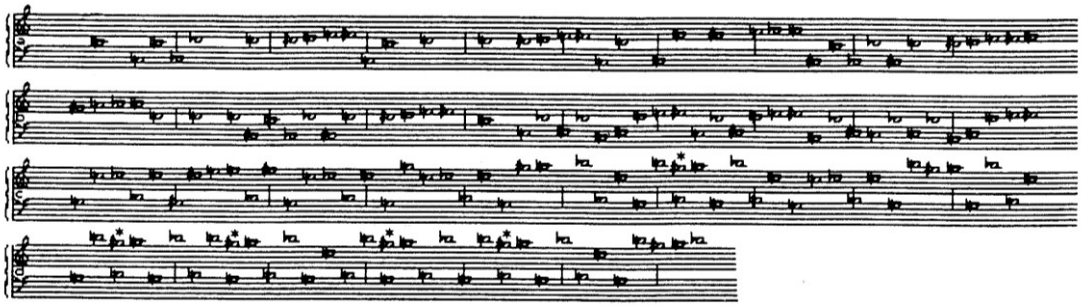
Note Example 2a from *Danse Sacrale* (nos. 142-148 (="A") and nos. 195-200 (="B")



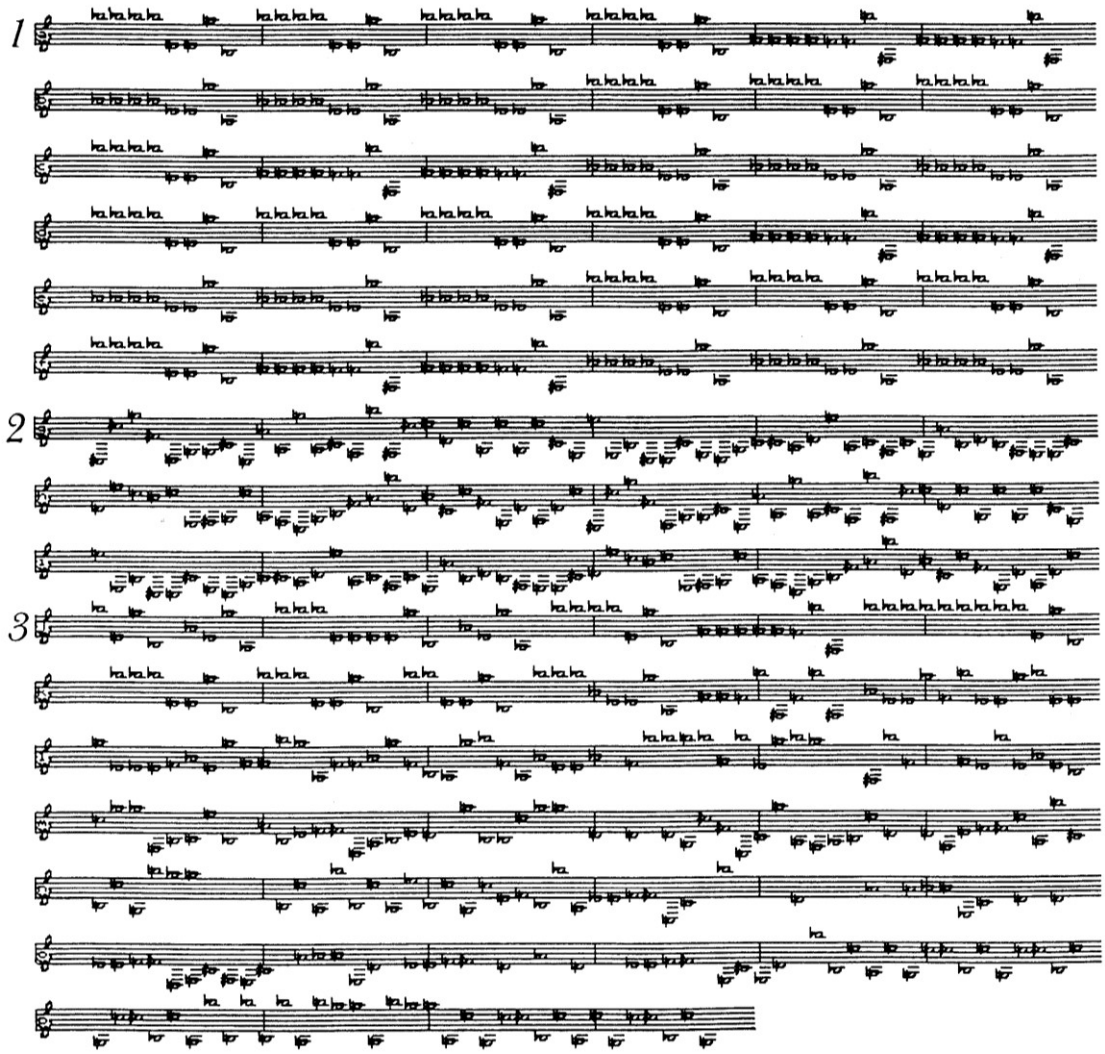
Near the end of the *Danse sacrale* (Rehearsal Nos. 195-200) other chords – again twelve in all – were 'numbered' with the octave lying above and could be retrieved by means of the keyboard. A chromatic (!) scale on the keyboard would produce the chords according to Stravinsky's order, namely one for the beginning and one for the end of the *Danse sacrale*.

The bass line of both sections, consisting of only four tones (D, F, A, C), again resulted in a total of twelve different codings as well through various instrumental combinations (consisting of double bass, timpani, tuba, bass drum, horn, contra-bassoon, bass clarinet).

Note Example 2b controlling melody of *The Rite*



Note Example 2c Périgordian controlling melody



Thus three octaves were sufficient for a complete coding of the chords and bass notes; both employed parts of the *Danse sacrale* were reduceable to a monodic series of 36 code-notes (Stravinsky proceeded as in hocket), shown in Note Example 2b (this series is rhythmicized, so that it is more correct to speak of a melody; it will now be called the 'controlling melody of *The Rite*'). However, in five places there were indeed simultaneous occurrences of the bass line and chord ('*' in the Note Example), in which cases CB discreetly compromised in letting only one of them be heard. Then he sought on the keyboard another melody for '*Périgord*', the '*Périgord*ian controlling melody' (↑Note Example 2c/1).

The Rhythm

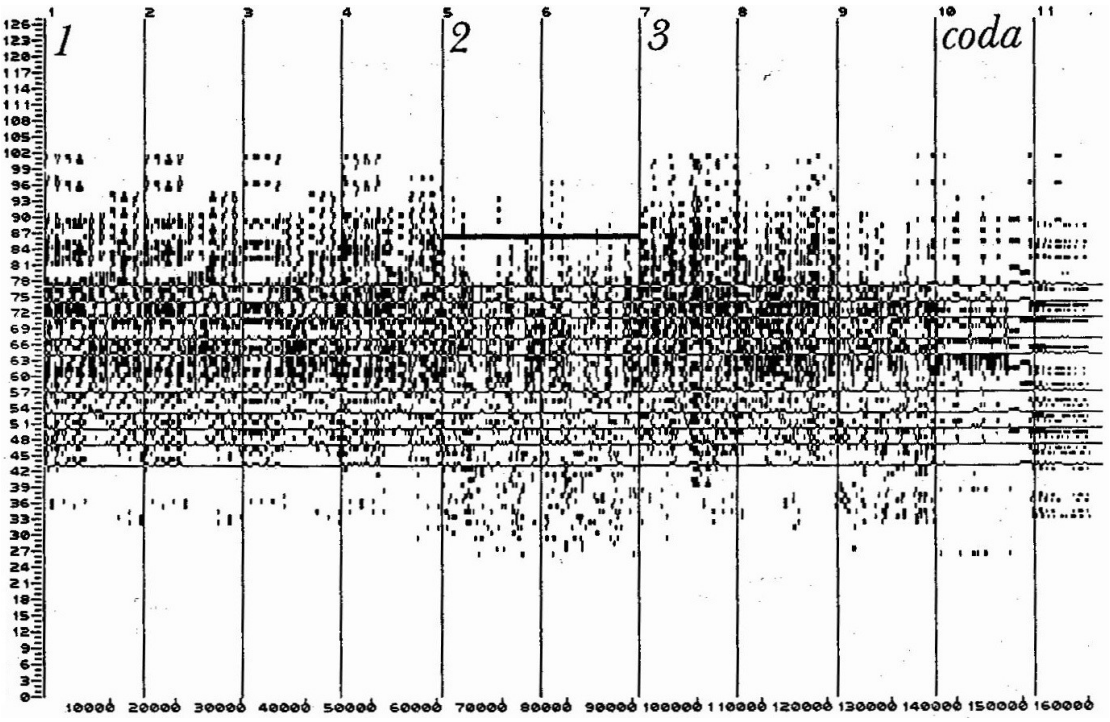
Périgord begins with an insistent rhythm, namely in the meter 4+2+3. These nine pulses create an additive measure (not multiplicative as in 3x3) and should have the following accentuation: ta-ta-ta-ta-ta-ta-tam, as in a dull rendering of eight, in which one is so out of breath on the last beat that one needs time in order to catch a breath for the next bar; church congregations often proceed thus, involuntarily singing in 5/4 due to the extra beat resulting from the breath.

Additive meters are often found in folk music, where they are utilized quite naturally; in other places, however, they serve – according to CB – to show off the 'cleverness' of the artist. Brubeck's *Take Five* has a 4 on a cleverness scale of 0 to 10; in contrast, punk music has at most 1 – a reason he treasures this music. Avoiding cleverness, he therefore sought out for *Périgord* a stubborn, dull rhythm, such as a 'punk eight' … it was, however, too banal for him to hammer it out in this form – so he added an extra pulse at the end of the eight meter in order to further deaden it and achieved thereby an 'eight with waiting pulse,' not a 'clever' form of nine.

The Tripartite Form

The idea then further arose to bind 4+2+3 measures as a phrase, and 4+2+3 phrases as a section. The three beats of a waltz can be considered 'strong,' 'weak' and 'medium'– a hierarchy adopted here – whereby the term 'strength' applies less to dynamics and density than much more to rhythmic structuredness: the first 4x9 bars are especially strongly structured, the next 2x9 more 'chaotically,' the last 3x9 somewhere in the middle – Fig. 3 shows a overall picture of *Périgord*, *namely* in terms of pitch and time (in milliseconds); the three sections correspond visibly to 4:2:3 in duration – following this there is a coda (similar to the one in *Chorale*).

Fig. 3 *Périgord*: plan pitch/time



Section 1

Rhythmically, this section is determined by the insistency of the underlying *Périgordian* controlling melody. To this end, the orchestra is divided up into four approximately equally sized groups:

I. woodwinds
II. brass
III. strings up to viola 3 (stand 'l')
IV. remaining strings and timpani

These four groups could each be transposed up to six half-steps, i.e. they were allowed to be pitch-shifted against each other according to a spontaneously variable *random spread* (random spread index): if the value was '1,' then they would occasionally drift a half-step apart. CB fed the *Périgordian* controlling melody from one computer via MIDI into another and varied the random index spontaneously – in measure 265, on the third 9-measure run, it sank for a while to 0 (original pitches – ↑Fig. 3), before the chords again drifted apart.

Section 2

In contrast to the first section of *Périgord*, the second is structurally 'weak.' It is based on an analysis of the number of pitch occurrences of both control melodies: they were analyzed statistically together and re-synthesized such that their chords have the same number of occurrences, but in a completely random order. A special feature: on every 9th pulse (18 times in all) a pulse is to be heard on a steel drum – a little like a clock from Grimms' fairy tales.

Section 3 with Coda

Here, the analysis of the *Périgordian* controlling melody again serves as a basis for synthesis, only somewhat more relaxed in terms of structure than at the beginning; in such a way, the music reminds one of Section 1, where the patterns of repetition are clearly recognized – no longer as 4+2+3, but as a clear reminder of it. Gradually, the structuredness is then reduced to zero, reminding one of Section 2. Thereafter, the statitisical model moves to the controlling melody of *The Rite* (Note Example 2b), also unstructured, in order to make the transition inconspicuous. The structuredness then increases – the music then seamlessly goes into something similar to the *Sacrificial Dance* – a wondrous transformation, this time an homage to Stravinsky. Berlioz is also briefly present, with two measures in the coda from the *March to the Scaffold* from *Symphonie fantastique* (another great milestone in music history!), as a buffer between the reconstruction of the beginning and that of the conclusion of the *Sacrificial Dance*.

The Crossfade

The transition between *Périgord* and *Hornpipe*, as well as between *Hornpipe* and *Exsequor*, is achieved through an orchestral crossfade: the entrance of the new movement occurs through one part of the orchestra while the other part plays the music of the fading movement, though continually quieter. This crossfade seems to be of central symbolic meaning.

This very popular practice (e.g. in discotheques and on radio stations) serves to achieve a softer, more comfortable method of playing the music. Boredom is nipped in the bud; before one music has served out, when one feels after a few minutes that something else is due, then a new piece is threaded in – indeed down to the second so that no gap is produced which could possibly lead to contemplation or could produce a slight touch of embarrassing awkwardness. The music is cut and mixed to utilizable bite-size and reaches the listener pleasantly and comfortably.

For *Orchideæ Ordinariæ* to be meaningful, its leading guidelines must be understood to be pleasantness and marketability. This is here illustrated by the example of so-called "new music":

"*As understood since the end of the last world war, it* (new music – the author) *has a certain inherent alibi function – whereas one tended before the end of the war to crush creative spirits (among other things), since then one has felt compelled to promote them, even with a dearth of those worthy of promotion, because the apparatus has to be operating visibly.*

In its early phases, new music could still fulfill the challenge of being excitingly ground-breaking. Its representatives, thoroughly creative composers of well-earned name and standing, received strong support from young, dynamic radio and media producers with a feeling for the daring. With increasing age, however, these composers turned more to the care of their dramatically swelling bank accounts, which compelled them to deliver the proven and trusty to their producers, aging along with them, and their meanwhile fossilized taste.

Music teachers exist who report to astounded young students about exciting premieres (abundantly experienced until approximately the mid-70s), although this does not prevent one from completely attributing to these teachers the receding enthusiasm evident since then."

(from *Introduction to the Paleontology of New Music* by Prof. Barlomew Clarifier / Pessimist & Cynic Publishers, Bonn 1990)

In contrast, the composer CB believes that new music has indeed become a very attractive field for vendors and providers; see his essay *On the (desolate) State of New Music* (↑Appendix IIa). Even earlier, the 'sell-out' topic had kept him busy compositionally. At the beginning of 1988, in the composition *Fruitti d'Amore* for cello and electronics, he first presented a larger-scale experiment. The first part, *con fuoco alla Giordano* (fiery, after Giordano), contains among other things a poem called *Ode to St. Cecilia*, (↑Appendix IIb); in the second, *musica alla vostra commodità* (music for your convenience), the cello part is expanded by a huge battery of technology (2 video cameras, 1 video synthesizer, 1 video projector with screen, 2 computers and 1 sampler and more), intended to help compose a standard utility music. But the production of music recognizably determined for consumption without it being consumed seriously on the one hand and, on the other hand, being understood as a parody – this was not unproblematic.

On Conventions (more from Prof. Clarifier)

"*In the utilization of a language (as this here), existing grammatical rules are pre-learned and internalized in order to be employed inconspicuously, spontaneously and naturally. In contrast, a self-declared experimental artist consistently uses a series of <u>self</u>-developed techniques – new experimental works often even require the development of a new language; for the listener, eternally learning new challenging languages is time-consuming and only has considerably delayed chances for success, in contrast to the practice of popular music: here, easily learned languages are understandably bred on purpose, which as an appropriate reward to the speakers are quickly understood by the audience. Only that which has been taught may be offered to schooled <u>buyer</u> interest. In a hardware store, experimental screws are obviously of less interest than time-tested ones: after all, one has a clear idea of what one wants to do with these.*

Nonetheless, representatives of New Art are convinced that they are able to open up new mental perspectives which they can also sell – and that as fast and as much as possible in order to live better (which would actually advise against the use of new languages). Hordes of composers and performers of contemporary music pursue radio hosts and publishers with the hope of 'landing' their work – they would be then free from locating sources of income for the next two months or years. The 'modern' artist only thinks about commissions and performances; the number of artists hungry for commissions and performances is also increasing significantly. Music becomes a currency. Marketing abilities outdo musical ones. The result: music festivals, once a transmitter of daring thought, now offer only that which is comfortable for normal consumers."

CB thought about this and wanted – with *Fruitti d'Amore* and *Orchideæ Ordinariæ* – to motivate others to do the same. The density of content given by the multichannelled semantics inherent in music seemed to him a more suitable means that an emotional lament. Ambiguity is, nonetheless, a form which (like the joke) is impossible in plain language, which when used indirectly can only reach those – but then with an increased effect – who possess the right requirements for understanding the point. There are perfectly great examples of this, e.g. Charles Chaplin (*Modern Times*) or Terry Gilliam (*Brazil*).

Music about consumption proscribes good craftsmanship seeking appeal and striving for much praise and this or that prize for the composer. Thus, *musica alla vostra commodità* could not be 'good,' which has escaped some listeners; for how can one create a utility music which is supposed to come across as a machine-made disposable product and at the same time, in terms of craft, design it so convincingly that the listener is made to forget that a foreign language is being spoken here in which the author slips into the role of another.

Fruitti d'Amore is the most negativistic work that CB has yet produced on the topic. *Orchideæ Ordinariæ*'s message is similar but much more friendly – CB seems here to have slipped into two or three roles: at the beginning he is a likeable composer of new music who writes a four-movement suite, *Chorale*, *Périgord*, *Hornpipe*, *Exsequor*. Here, the first movement will play the role of an *intrada* (introduction), the second of a *scherzo*, the third of an *andante* and the last that of a *rondo finale*. CB reports that he originally wanted to write even more pieces – even six – but he made do with four; the words 'intrada,' 'scherzo' etc. were also not prompts in composing, indeed they were not even present.

Périgord has served its time; just as in every good discotheque it is faded out – in the orchestra all those who play the Stravinskian music play more and more quietly. The 5th horn then enters (in the fourth measure before the end) with the first tone of *Hornpipe*.

III. HORNPIPE

Instrumentation

Hornpipe means 'horns,' 'pipes,' tubular wind instrument forms, intended to signal the central, polarized role of the winds: apart from a striking rhythm the music has basically nothing to do with the nautical dance. The winds here play exclusively sporadically employed, long held notes – delicate single notes grouped closely around C5 in the treble, sometimes agglomerating to clusters, hover above a very present F drone in the bass.

The three percussionists play – even more dominantly than the winds – on bass marimbas, whose keyboards are covered with rubber sheets, rendering the sweetish bass marimba sound uglier. The syncopated triple rhythm runs throughout the entire movement, getting slowly and consistently denser.

The 2nd Ghost: 'Orchtalk'

At the end of *Chorale*, 'Glass Cylinder' appeared – in *Hornpipe*, the other two ghosts appear for the first time, the first of them 'Orchtalk,' a speech synthesis. Already ten years earlier CB was moved to present an orchestra with a 'language score,' which, when played, would allow speech to be heard. In the composition *Im Januar am Nil* (1982 – 1984), he attempted to reproduce speech timbres instrumentally, i.e. to use playable sounds close to sine tones (in this case string harmonics) as spectral overtones in the hope that understandable words and phrases would result. For this purpose, he wrote a series of German sentences, for example *Um null Uhr am nahen Mahnmal meine Meinung murmeln* ("At midnight at the nearby monument of warning, mumbling my opinion") or *Im Januar am Nil Mumien anmalen* ("In January at the Nile, painting mummies") or *Urahnen meiner Om aim Innern einer Emailleurne einleimen* ("Gluing ancient ancestors of my grandma to the inside of an enamel urn"), sentences that – being devoid of noise elements – are particularly well suited to so-called 'additive analysis and synthesis' (breaking down into and the reassembly of partials). These sentences were then – by usual methods of setting a text to music – allocated syllable for syllable to the notes or groups of notes of a melody composed for the purpose.

The two main steps of the conversion of language into notes were: firstly the creation of a time-rasterized spectral analysis of the language input (this was done with a resolution of 32 milliseconds), and secondly, the compilation of a catalog of the partials of all fundamentals with the information of which string these were to be produced on and with which harmonics (e.g. the 7th partial [B4] of a fundamental [C#2] as the 5th partial of the open string [G]).

CB admits to making a few mistakes – less technical than practical: on the one hand, the sentences were much too long, complicated and numerous, on the other, the fundamental melody (implied or projected by the partials, never really to be played) too melismatic – this contained ten different, chromatically adjacent tones projected with differing degrees of clarity, which made their perception considerably more difficult. A complicated mictrotonal scale was used as a basis for the tuning of the instruments because of this chromaticism, which was not unproblematic in rehearsals and performances. In addition, he created a separate spectral analysis/synthesis for every pulse of the piece, which resulted in the strings having to jump, pulse by pulse, from string to string – and that in part while performing crescendi and decrescendi – in order to reach the next due overtone.

That was a great deal of work at that time, he says – in the end, one understood nothing. He did notice during a lecture in Darmstadt, approximately his fourth about *Im Januar am Nil*, that he could indeed understand some words, but only because he was in the meantime quite familiar with the tape recording of Ensemble Köln. When he silently mouthed the words during the lectures, they were also partially understood by the audience; most of it however, was lost – even he could not follow all of it.

For *Hornpipe*, CB chose only three short texts in English, dramaturgically relevant phases: *Why me*, *no money*, *my way*, complaints of a composer who composes for money who despairingly comments on the absence of such.

Also, only four pitches (D3, E3, G3, A3) serve as fundamentals (which are also played this time), because partials of these are most often present as harmonics. In one sense he went further than he did in *Im Januar am Nil*: two fundamentals may sound simultaneously, their synthesized spectra are mixed.

Furthermore, he sought to attribute each string part one and the same overtone as much as possible in order to smooth out the playing technique: the musicians now only need to concentrate on entrance and duration instead of constantly jumping around on the strings.

The finely woven dynamics of the analysis was reduced to only four terraced steps in order to spare the musicians from dynamic gymnastics as well.

The spectral analysis – coupled with the fundamental melody – was able to be converted into a MIDI file, into note names, dynamics and time. CB encircled formants with a pencil; everything incidental was ‘erased away,’ until a phonetically clear image resulted. An example of the phonetic character of the speech sounds: for *no money* [nəʊ mʌni], the formants of the [i] are high and low simultaneously, the [ʊ] only has low formants; [n] and [m] have few partials, the [n] has a few more than the [m].

The timbral result is amazingly convincing. One has to know the text beforehand, and then one cannot escape the language – this is how clear it is in places. During production the sound engineer once said “again please, I don’t understand a word!”

Fig. 4 [next page] shows a sonogram of the three spoken phrases with the corresponding scores; these pitches can theoretically be played as notes on a normal keyboard without language synthesis modules in order to produce the language. ‘Orchtalk’ can be seen in the middle of Fig. 5 as a column-like image – pitch/time representation (unit of time 1.2 ms) of *Hornpipe* – here (measure 387, in the 12th minute of *Orchideæ Ordinariæ*) is its first appearance; further appearances are in *Exsequor* (measure 593, 22nd minute) and *Scorpio* (measure 752, 26th minute).

Fig. 4 “Orchtalk”: 3 sonagrams and their pitches (pitch/time)

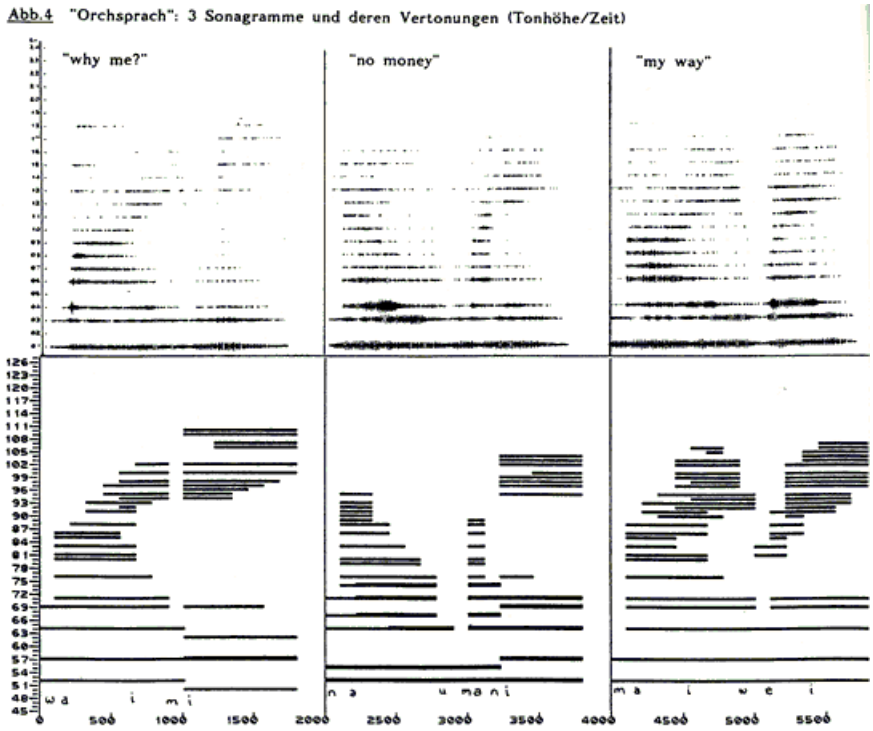
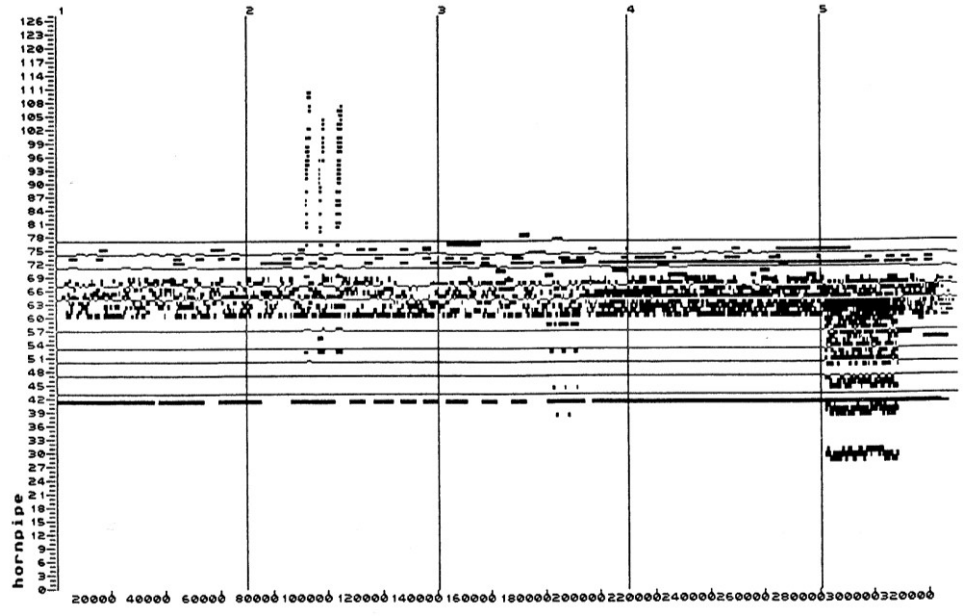
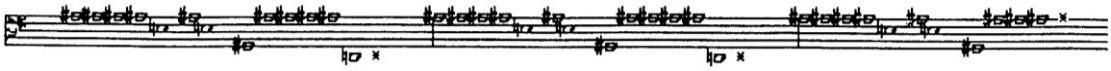


Fig. 5 *Hornpipe*: plan pitch/time



Note Example 3 “Traumel”



The 3rd Ghost: ‘Traumel’

Note Example 3 shows a timpani motif, that (like ‘Glass Cylinder’) also originated in a dream and, in another reference to Stockhausen, was called ‘Traumel’ (=‘Traumformel’ *dream formula*, ‘Traumtrommel’ *dream drum*). ‘Traumel’ occurs three times as well: in *Hornpipe* (measure 429, in the 14th minute), in *Exsequor* (measure 593, 22nd minute) as well as in *Scorpio* (measure 752, 26th minute), together with ‘Glass Cylinder’ and ‘Orchtalk’.

89 Eighths

Shortly before the end of *Hornpipe* – signaled by an unexpected crescendo in the 4th trumpet – the nine lowest string players (cello 2 to double bass 6) play a series of 89 massive chords (the year the composition was completed?), whose individual pitches vary by small intervals. These chords are formed after the basilar membrane: measured in half-steps, the melodic intervals as well as the interval gaps between adjacent instruments are larger in the lower instruments but the same on the Bark scale.

A second crossfade leads into the fourth movement,

IV. EXSEQUOR

The Circularity

The Latin meaning of *Exsequor* is 'I perform,' 'I pursue' (until the bitter end, as in exsequiae, masses for the dead, which accompany the end); this reflects the inexorable consistency of this fourth part. This movement, as already implied, could be characterized as a rondo finale – one hears phrases minimalistically spinning in circles, indeed until the 'bitter end' (finale): all cycles, all circles are thoroughly carried out.

Exsequor consists of the same material as *Chorale*. Here, a rotation takes place of parts of the first cycle of the passacaglia (108 pulses long, which could hardly be heard because of the initially thin orchestration). The cycle was divided into 14 blocks, whose successive lengths were 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, and 1♪, thus 105♪ in total – the last three eighths of the first chorale cycle are omitted. Then it proceeds as follows: the first block (14♪) is repeated, the next (13♪) as well ... and this constellation (2x[14] + 2x[13]♪) is played FIVE times in all. Then follow 2x[12], 2x[11] and 3x[10] ♪, in total FOUR times. Then 3x[9], 3x[8],4x[7], 4x[6] ♪; the whole thing THREE times. Finally, 5x[5], 7x[4], 9x[3], 14x[2], 27x[1] ♪; the whole thing TWO times. And so there are fourteen shrinking blocks to be counted (14, 13 ...) that find themselves in a consistent game of numbers with their exponentially growing multipliers (2, 2, 2, 3, 3, 3, 4, 4, 5, 7, 9, 14, 27) with four large cycles (14+13 ♪ in the first, 12+11+10 in the second, then 9+8+7+6 and 5+4+3+2+1) and their multipliers (5, 4, 3, 2) – the many repetitions meanwhile make the music occasionally sound like bell ringing.

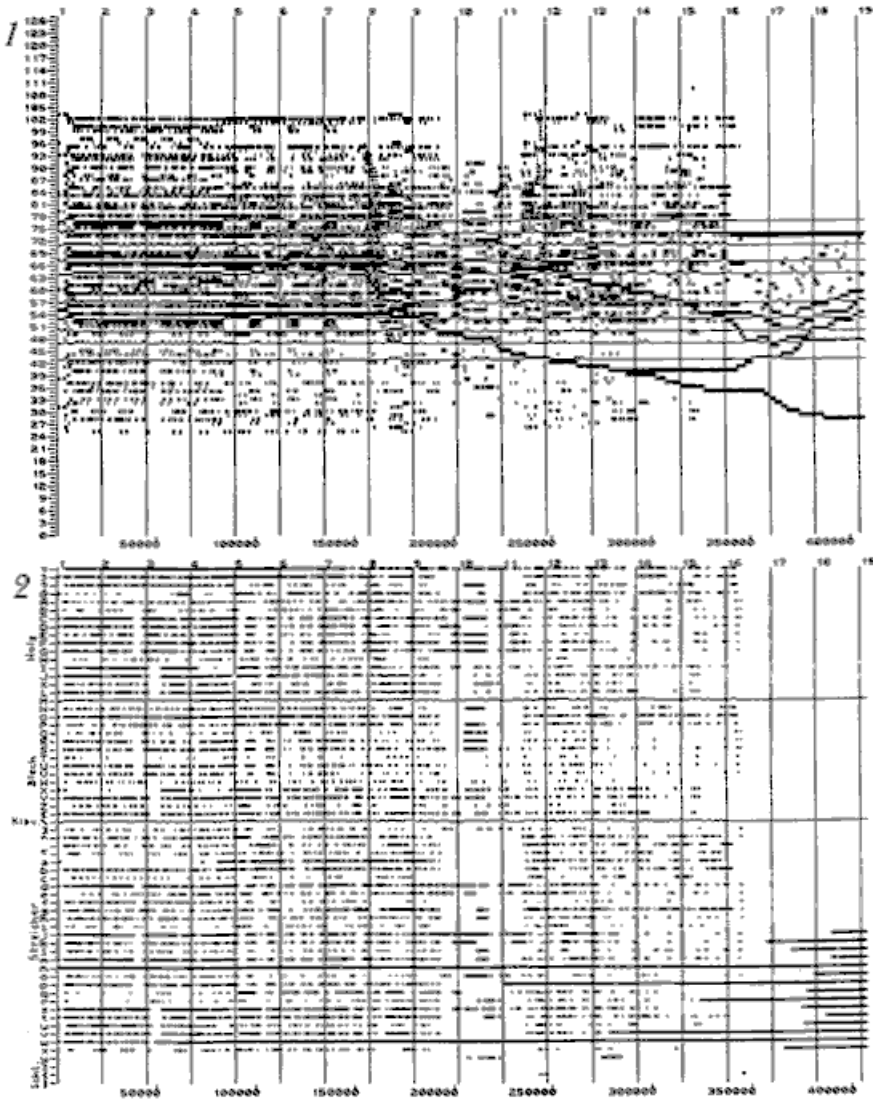
The Thinning

Fig. 6/1 [next page] shows *Exsequor* as a pitch-time graph (unit of time approx. 1.1 ms): at the beginning dense, then during the course of the piece consistently getting thinner, more perforated – the instrumentation can be seen in 6/2. That which occurs here is the opposite principle of the thickening in *Chorale*: there, more and more instruments enter until 'full employment' is reached – here, occasionally but more and more frequently, entire groups of instruments intermittently drop out, until at the end of the development there is only a rat tail of individual groups.

The 1368 eighths of the 'actual' movement (↑'final sweep,' 'the long tones' below) are divided into 57 'frames' (29♪ in the first, 19♪ in the last, and in between always 24♪ per frame); in each one of these, the division of the orchestra into four groups is calculated randomly anew, and the freedom of movement of each group is limited to four fixed, yet overlapping regions of the orchestra's space (↑Fig. 7), in which the amount of stands in each group fluctuates between the following approximate values: 3~6 (group I), 4~9 (II), 8~24 (III), and 12~18 (IV). An exception is created by image frames 33-38: here, the groups were manually determined (↑'Bruckner's Visit' below). From the 1000th eighth on, all groups gradually shrink, each to three or four stands 'jumping around' in their regions.

As said already, the music becomes more perforated after the initial tutti of the four groups – e.g. for one eighth a certain group stops, as if they had to turn the page; this happens more and more until a majority missing creates a situation in which the groups succeed one another in a sort of 'question & answer' game – a 'vertical' togetherness becomes a 'horizontal' sequence (↑Fig. 9), as if every group were a drum in rapid drumming. This method treats the orchestra as a 'space' (which it indeed is, 'orchestra' = 'dancing space'): *Exsequor* is a gigantic dance in the orchestra's space.

Fig. 6 *Exsequor*: plan pitch/time (above) and instrumentation/time (below)



Bruckner's Visit

Suddenly the (also perforated) *Scherzo* from Bruckner's *Eighth Symphony* appears – a glimmer of light in the harsh mania of development. Not Reich, Riley or Young, but Anton Bruckner is considered by CB to be one of the first minimalists – he considers the frequent repetition of series of chords in the mentioned scherzo to be immanently minimalistic; Vivaldi, in contrast, does not belong to this genre, because his repeated sequences pertain to a manner of expression in which certain things have to appear multiple times for a sensible textural design – see, for example, the Alberti bass or some African music. With Bruckner, the repetition is not a simple texture; he made– like Beethoven in the *Pastorale* – the repetition a topic, departing from the decoration it used to be.

Thus Bruckner is invited into the piece as a 'primordial minimalistic' guest, with a very short quote from the first movement of Beethoven's *Pastorale* – played by woodwinds and the front strings – inserted as a supporting extra in the Bruckner quote.

To weave the *Scherzo* quote into *Exsequor*, its orchestration had to be analyzed, and clarity obtained regarding the instrumental grouping. It turned out that Bruckner seldom wrote more than four contrapuntal voices sprinkled in among various orchestral groups. In such a way, CB re-orchestrated the *Scherzo* excerpt somewhat and had Bruckner's four otherwise distributed voices appear in four completely clear coherent groups – the result formed frames 33-38; Fig. 8 [next page] shows no. 37.

The Ghosts

In *Exsequor*, all three ghosts appear for the first time appear in close proximity – in anticipation of *Scorpio*. From measure 554 ~ 559 'Glass Cylinder' mixes – very audibly – into the general events. Shortly after Bruckner's Visit (bars 593 ~ 595) 'Orchtalk' appears: the words *no money*, *why me* are quite hidden here, nonetheless audible if one seeks them out. 'Traumel' sounds from bar 607 ~ 611.

The Final Sweep

At the end of its windings, *Exsequor* stops suddenly in the three leftmost horns and three leftmost flutes sitting directly behind one another; then a last rapid sweep follows through the woodwinds, trumpets, strings, as well as through the back through the 2nd percussionist – see Fig. 7.

Fig. 7 final sweep and 4 basic orchestral regions in *Exsequor*

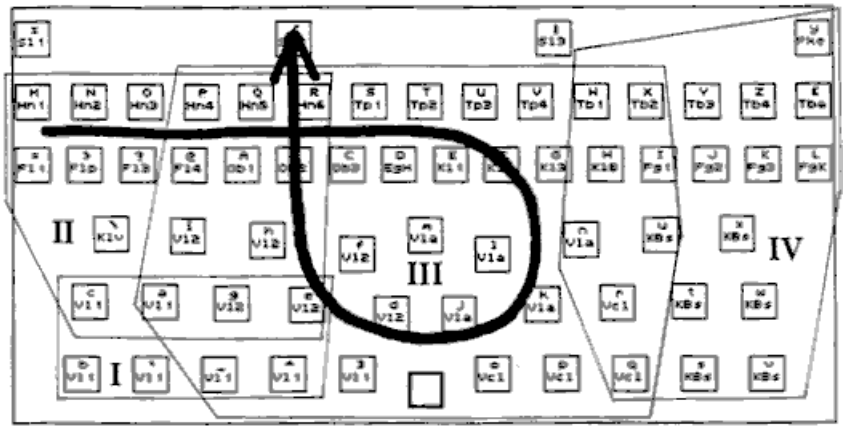


Fig. 8 *Exsequor*: Frame No. 37

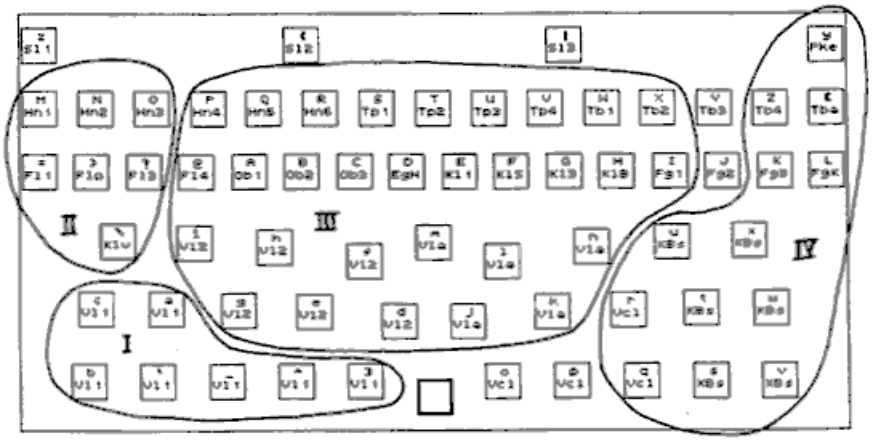
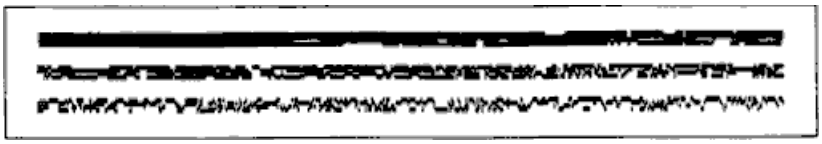


Fig. 9 transition "vertical"-"horizontal" of the group presence in *Exsequor*

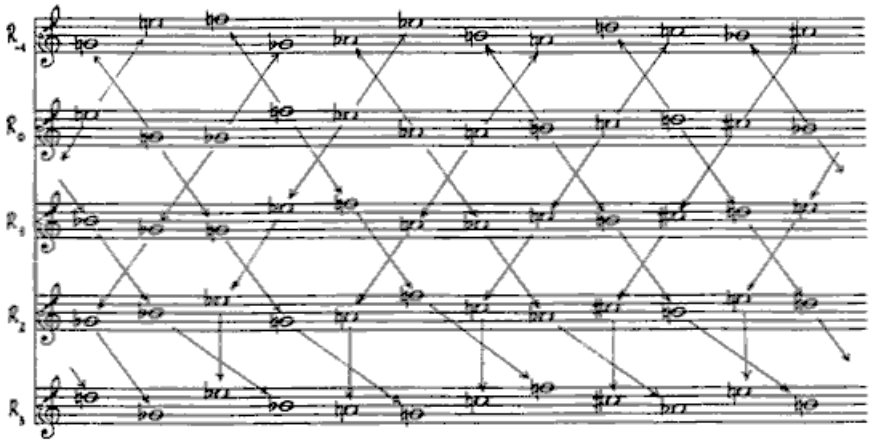


The Long Tones

With this sweep *Exsequor* is, however, not over – long held tones remain in the strings, which seeped out of the previous music like sticky molasses, spreading and forming into something else, stylistically perhaps settled in between Bruckner and Reger. Perhaps this smug, romantic form is a representation of the secret thoughts, the actual sentiments of the contemporary composer of this suite: perhaps it is also the pleasant music in the cinema after the film while one exits, perhaps the music accompanying the critical TV movie of last night, not bound to the content, thoughtlessly showering the viewer.

These long tones outside the four movement form have a particular development – Fig. 6/1 shows, on the far right, a melody (actually glissandi, not represented as such here) accompanied by a continually growing net of chromatic chains of notes. This melody is a sequence of twelve-tone rows including inversions, retrogrades and retrograde inversions. The prime form of the row ("came to me spontaneously" – CB) has been transformed into other rows through the simple exchange of neighboring tones (Note Example 4). With row 3, the approximately ten minute development in the middle of *Hornpipe* begins (measure 411) at the 5th viola stand ('n') – the original row p_3 is followed by the retrograde inversion d_3; the continuation (b = inversion, q = retrograde): $p_2\ b_2\ q_2\ d_2$ / $p_1\ b_1\ q_1\ d_1$ / $q_{-1}\ d_{-1}\ p_{-1}\ b_{-1}$ (an exception!) / $p_0\ b_0\ q_0\ d_0$ – the original row comes at the end. The initially monodic very long tones slowly become shorter and are contrapuntally supplemented by newly entering pedal-tone-like glissandi each usually moving in its own up or down direction.

Note Example 4 original and 4 transformed rows



The Chorale

A short fermata rest after measure 658 leads to the chorale, played by trombones, on which the *Chorale* passacaglia is harmonically based (↑Note Example 1); the strings thereby repeat in part the chromaticism which they just sounded – do the 'actual' dreams of the composer then take form (in the following *Orchidea*)? (finally real music!) Or are they from someone else?

V. ORCHIDEA

is a transcription of a piano piece with the title *L'Orchidée d'Argent* (The Silver or Money Orchid), that CB composed for *Orchideæ Ordinariæ* in January 1989 (↑Note Example 6). But the French title has been crossed out, and renamed *THE MUNICH SONG*! A text was added, with contents that could certainly come close to a profession of faith of the Unknown Contemporary Composer:

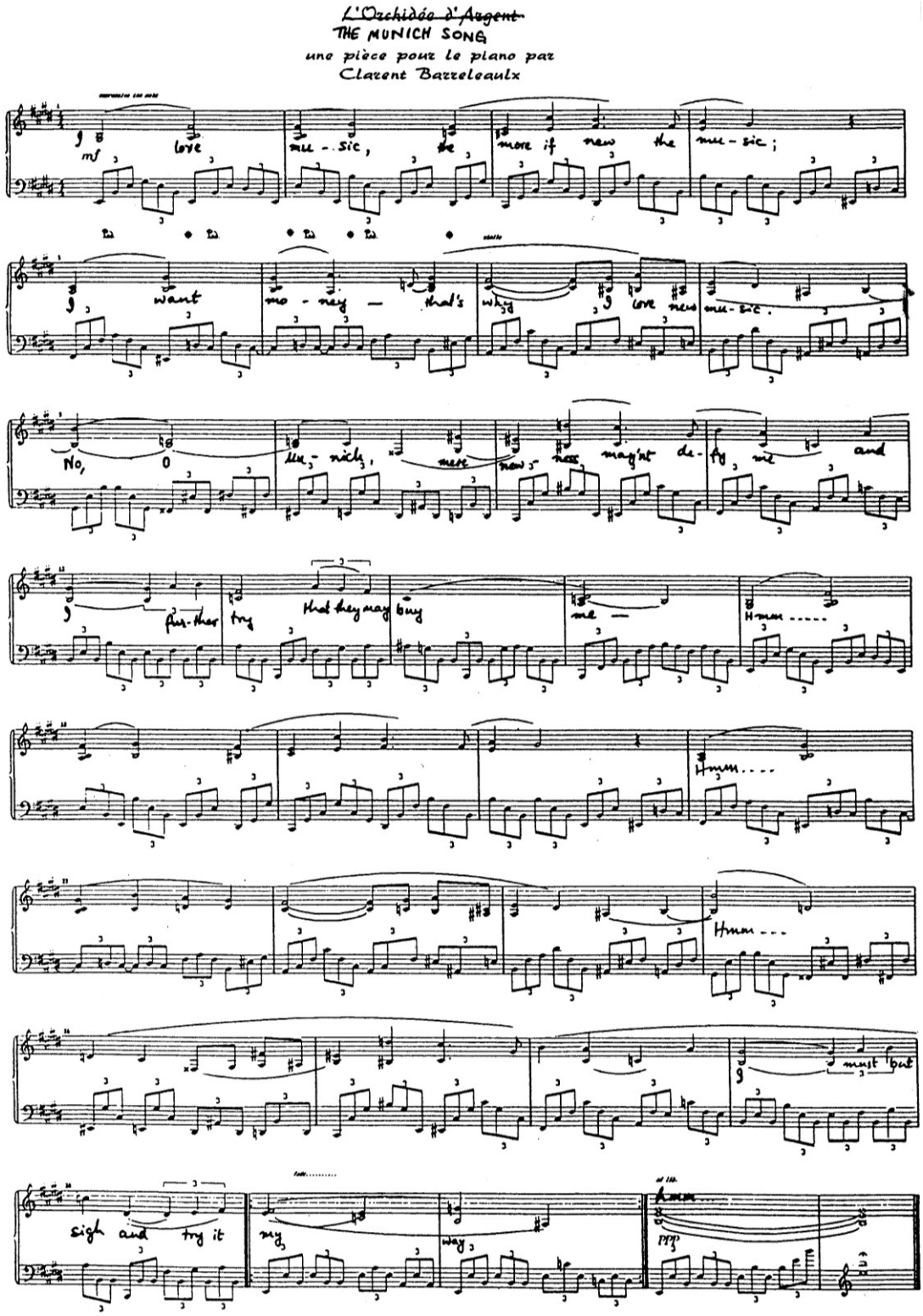
I love music, the more if new the music; I want money – that's why I love new music. No, O Munich, mere newness mayn't defy me and I further try that they may buy me.*

In the second run-through of *Orchidea*, chromaticism is given free reign; the third – an obligatory half-step higher – begins with cyclically ostinato 4/4 salsa rhythms in flutes, oboes, horns, trumpets, trombones, tuba and contrabass; if the sixteen pulses of these rhythmic cycles were also seen as sequences of bits ('attack' = 1, 'no attack' = 0), these could be translated into decimal numbers as 2210, 4711, 4713, 5471 and 16421 – numbers which turn out to be phone numbers of a few influential organizations in Cologne**. In addition, bass clarinets, the 2nd bassoon as well as contra-bassoon play a well-known bass line taken from the hit song *Brazil*.

* Is *Munich* supposed to hint at a possible geopolitical correlation between *Music* and *Money*?

** Cologne Municipality, F. Mühlens company (eau de cologne producer), Federal Office for the Protection of the German Constitution, Cologne Transport Authority (KVB), Catholic Archdiocese of Cologne.

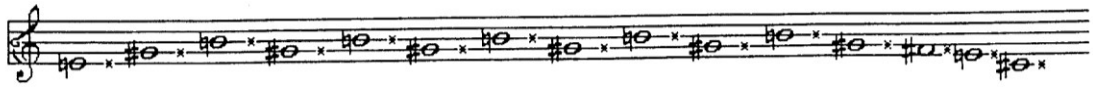
Note Example 5 *L'Orchidee d'Argent* aka THE MUNICH SONG



VI. SCORPIO

The log(arithm)ical extrapolation in time of the hitherto appearances of the three ghosts leads one to expect their conjunction at this point, which also happens; this part lasting only a half a minute was astronomically named *Scorpio*. Here, 'Glass Cylinder,' 'Orchtalk' (this time *my way*, *no money*, *no money*, *no money*) and 'Traumel' interrupt *Orchidea*'s victory march and lead to a situation of despair. *Scorpio* finishes with a melody which can only be described as a crowning of human musical art in the 3rd clarinet (↑Note Example 6) – this series of tones can often be heard in pub slot machines that arouse the hope that, for example, after the insertion of one German mark, maybe 1.50 German marks might come out.

Note Example 6 "slot machine melody"



VII. PANDORA

In the following embarrassing pause, the pianist – up till now always humbly and unobtrusively playing in the corner – attempts to distract from the situation, in fact with a quiet, quick chromatic scale at the upper end of the keyboard, as if innocently whistling, studying fingernails or looking around the place. The music which follows – truly lovely and innocent (in a *OnceUponATime* manner) – gradually becomes more energetic in the pianist's hands. A bit later, the orchestra which has remained silent joins in, believing to see a slow tango, with a fitting, valiant accompaniment in the six horns and the six double basses … but then indeed soon gives up again. The piano music develops into a harsh essay full of contrasts; that which guides the fingers of the pianist leads along a headstrong path, impossible to have been devised by the previous maestro, or indeed possible? …

The composer of this music is actually a Mr. Clarence Barlow, somewhat popular a few years ago with his *Çoğluotobüsişletmesi* and other proper, non-commentative music. *Pandora*, a typical, even better Barlow music contains, in addition to the super-virtuosic pianistic technique (written in an unplayable manner on six systems, the piece had to be adapted to human fingers afterwards), a Barlowian pause – a ten second long low C followed by a pause of the same length. This composer's adherents completely get their money's worth here.

The orchestra piece has meanwhile been quite forgotten. Was there one? Nobody knows anymore.

EPILOG

Orchideæ Ordinariæ was premiered on 20 October 1989 by the Symphony Orchestra of the South-West German Radio (Südwestfunk) under the direction of Ingo Metzmacher (piano: Kristi Becker) in Donaueschingen as part of the music festival taking place there. The reaction of the public, a gathering of experts rich in tradition, was generally cool, reserved, and characterized in general by a certain perplexity. Nonetheless, a handful of enthusiasts proved that the unspeakably bad acoustics of the Baar Sports Hall, which served as the place of performance, could not be solely at fault for the lacking semantic transmission of the work to the many educated listeners. The numerous newspaper reviews (↑Appendix III), whose mere abundance makes them interesting, document the difficulty with which even experts are plagued by in hearing a single time a complex work with many layers of content – a phenomenon well-known in literature, for example; only book critics have the opportunity to re-read a few sentences which come across as obscure to them, or even resort to an edition with commentary.

The occasional effectiveness of such commentary is made clear by the approximately dozen lectures on *Orchideæ Ordinariæ* which have so far been given; the listeners, for the most part untrained, showed a high degree of understanding for the messages contained in the work; in particular, they praised the transparency. But they have no kind of immediate influence on the making and doings of contemporary art dealing. It would be hoped that this text proves helpful at the second performance of the piece.

Cologne, 1 May 1990

APPENDIX I: Technical Details of Programming

a) The Programs

For *Orchideæ Ordinariæ*, the composer implemented computer programs, in part created earlier. They can be divided into four groups:

- ORCHVIEW (for the graphic control of the orchestral space)
- FURIOSE (a program package for Fourier analysis and synthesis)
- MIDIDESK (a program package for the processing of MIDI data)
- AUTOBUSK (a real-time program for composition with peripheral equipment)

1. **ORCHVIEW**

This represents the seating arrangement of the orchestra on the screen (↑Figs. 1, 7, 8); in addition, one can navigate through the orchestra with a window of adjustable size by means of mouse keys, in which it can be determined exactly which instruments were in the window at what time – this information is provided in .MDK format (↑MIDIDESK).

1. second 2. millisecond 3. track 4. change of presence/absence* 5. & 6. not used

The characters '1' and '0' represent entrances and exits, respectively.

2. **FURIOSE**

This comprises four main programs:

ANALYSE –
Analyzes on the basis of an FFT (fast Fourier transform) a wave input by means of analog to digital conversion (up to 16 bits); fundamental frequency, time window, number of desired partials as well as the segment to be analyzed are adjustable – the resulting file (named *.FFT) contains partial numbers, amplitude and phase.

SONAGRAM –
Representing a time-transient spectrum time in band amplitude and subjective pitch (Barks) (↑Fig. 4)

FFT>MIDI –
Converts the content of a .FFT file into a .MDK file (↑MIDIDESK), playable by ↑MIDIPLAY

SYNTHESE –
Calculates, displays and plays (DA conversion) the sound wave corresponding to an .FFT file

3. **MIDIDESK**

Here MIDI files in .MDK format are processed; every line of a file in this format contains 5 or 6 elements (cf. .PRM format ↑AUTOBUSK):

1. second 2. millisecond 3. track 4. command 5. value_1 6. value_2

Explanation:
1. & 2. point in time to execute command
3. a character (ASCII 61 ['='] ~ 124 ['|']); 64 tracks can be thus indicated, independent of the allocable MIDI channel
4. command, a character e.g.
   - 'P' = *Play* (i.e. *note-on*: value_1 = 0 ~ 127)
   - 'D' = *Damp* (i.e. *note-off*: 0 ~ 127)
   - 'I' = *Instrument* (timbre, *program change*: 1 ~ 32)
   - 'W' = *Pitch Wheel* (value_1 = -64 ~ 63)
5. & 6. for *Play*, note number (value_1) & velocity (value_2); for most other commands the value_2 is not used

Among the programs of MIDIDESK, there are modules such as JOIN, FUSE, PART, VARY, TIDY, whose tasks are comparable with those of the same name from ↑AUTOBUSK. Other important modules are:

PLAY sequencer program; plays an .MDK file into the 16 possible MIDI channels, being given one of 64 possible tracks.

READ program for stepwise entry by means of the piano or computer keyboard; files are saved in .MDK format.

HEAR entry program for MIDI entry in real-time; files are saved in .MDK format.

EDIT program for directly changing the information in an .MDK file.

NOTE notation program; shows a file on a notational system with any clef, note heads placed proportionally in time and enharmonically changeable accidentals – also stems, dots etc. are manually adjustable; for checking purposes, not beauty.

VIEW graphic program for file representation as a pitch/time graph (↑Figs. 2a, 2b/1, 3, 4, 5, 6/1).

PLAN graphic program for file representation as a track/time graph (↑Figs. 2b/2, 6/2).

GRID quantization program – time tags of a file are rounded in microseconds to multiples of a predetermined value.

FADE creates a gradual 'fading' of two files; the file begins like one file and ends like the other.

PASS copies a file while deleting (through integrated on/off commands) indicated track segments.

LOOP copies a file, creating loops of indicated segments (tabled in an accompanying file).

LIKE changes one voice while keeping the pitch content and rhythm according to a 'similarity index': at 0% every note is replaced by a new one, at 100% none.

MOCK 'imitates' a file following Markovian statistics of various order (determining the similarity)

RIDE codes chords (multichannel as well) by means of note numbers, a note-on (e.g. by means of the MIDI keyboard) then executes 'its' chord, random spread allows random transposition of individual MIDI channels

4. **AUTOBUSK**

According to predetermined parameters, material and commands (see below), one can compose in real time with this program – the three-track output occurs via MIDI-compatible tone generators, and can also be saved as a .MDK file (↑MIDIDESK). The entry can occur in the following ways:

1. computer keyboard
2. mouse
3. MIDI output device (e.g. fader, computer, music keyboard)
4. file in .PRM format

The .PRM file consists of a series of definitions, each taking the form of a line consisting of five elements (compare .MDK format: ↑ORCHVIEW, ↑MIDIDESK):

1. second 2. millisecond 3. track 4. identifier 5. value

Explanation:

1. & 2. indication of time when the definition is effective

3. the number of the track which the definition concerns ([0] = 'all voices')

4. the identifier can be one of the following:

   a. PARAMETER number –

      1. metric clarity [value = 0 (syncopated) ~ 24 (clear)]
      2. pulse length [value = 10 ~ 255 milliseconds]
      3. eventfulness [value = 0 (silence) ~ 24 (saturated)]
      4. event length [value = 1 ~ 255 pulses]
      5. melody scope [value = 0 ~ 88 half-steps]
      6. tonic pitch [value = 0 ~ 127 (MIDI *pitch*)]
      7. chordal weight [value = 1 ~ 3 tones]
      8. harmonic clarity [value = 0 (atonal) ~ 12 (tonal)]
      9. pitch window center [value = 21 ~ 127 (MIDI *pitch*)]
      10. pitch window width [value = 0 ~ 88 half-steps]
      11. dynamics [value = 0 ~ 127 (MIDI *velocity*)]

   b. MATERIAL selector –

      S = scale [value = 1 ~ 5, freely assignable (↑Appendix Ib/1,3,7)]
      M = meter [value = 1 ~ 5, freely assignable (↑Appendix Ib/1,3,7)]

   c. COMMAND (selection) –

      I = change timbre [value = 1 ~ 32 (*program change*)]
      C = switch voice [value : 0=off, 1=on]
      P = set pulse number [to value = 1 ~ measure length]

5. The value matching point 4 lies between the values shown above in square brackets [a ~ b].

AUTOBUSK can function autonomously or – by means of multiple computers – in serial as well as parallel configurations: a serial connection allows output values to function as control input, while the parallel allows six-, nine- or multiple-part polyphony. Two kinds of peripherals belong to AUTOBUSK: preprocessors for the processing of scales and meters ('PREPROC') and a host of parameter processors ('PRMPROC') for the processing of .PRM files – called 'scores' in the following.

In PREPROC, quantitatively defined scales and meters are qualitatively evaluated according to special algorithms; among them are the following programs:

HRM converts a scale given in cents into a just tuning, from which an evaluation of the harmonicity of the individual steps to the fundamental follows.

IDP rates the importance of the individual pulses of the given meter as a layering (e.g. 12/16 as '2x2x3')

These evaluations have an direct influence on the probability of the musical events through the parametric values.

In PRMPROC, the following programs are contained among others:

JOIN chains together multiple scores
FUSE fuses multiple temporally concurrent scores together
PART divides selectable aspects of a score into two
VARY varies values of selectable identifiers of a score
TIDY eliminates redundancies as well as errors in a score

b) Utilization of the Programs

1. **CHORALE**

In ↑ORCHVIEW, instruments were stroked over free-hand (= mouse), initially individual ones, later in groups of growing range, until the left half of the orchestra was covered. The .MDK output file (↑MIDIDESK), which reported on the instruments' entrances/exits (the right half of the orchestra was incorporated at the end through the entrance of all the rest of the instruments) was fused via MIDIFUSE* with the undiluted passacaglia generated by ↑AUTOBUSK and the fusion was sent through MIDIPASS, thus accomplishing the spatial wandering; 'Glass Cylinder' (↑6. SCORPIO, below) was also built in by means of MIDIFUSE.

The characteristic 'Perotinianness' was accomplished by means of the following AUTOBUSK input:

3 scales – major, Mixolydian and harmonic minor

1 meter – [3x2x3] (a form of 18/8)

parameter values (all voices the same) – at the beginning 24 200 12 3 3 * 1 8 * * 64

The values of p[arameter]6, p9 & p10 (here each '*') were dependent on the instrument; scale numbers and P6 were changed in time – following the basic harmonic sequence. 20 runs of AUTOBUSK were necessary to get the 60 parts.

* MIDIDESK Modules are indicated by the prefix MIDI.

2. **PERIGORD**

For MIDIRIDE, a table with the information in Note Example 2a was prepared – every block of information begins with the name of a code note, e.g. C_3 (MIDI no. 48) or F#4 (MIDI no. 66); then a maximum of four lines follow with pitch indications for chords. Inputting the code note by MIDI immediately triggers the chord associated with that note. In section 1, MIDIRIDE was fed the *Perigord*ian controlling melody in real-time by a second computer; the *random spread* control occurred spontaneously – thereupon, the finished score sounded which was also saved as an .MDK file.

For section 2, the *Perigord*ian controlling melody – smoothed out via MIDIGRID and set in quanta – served as an input melody for MIDIMOCK, which generated a new sequence of first Markovian order, which was also inputted into MIDIRIDE as before.

This process was repeated in section 3 in the beginning on the 1st Markovian order, then gradually lowered to 0th order; then (also on 0th Markovian order) the *Perigord*ian controlling melody was replaced by the chromatic *Le Sacre* melody, the Markovian order raised to 1, and the random spread was lowered to 0 – in this way, the music generated at the end would be most similar to the original *Sacrificial Dance*.

3. **HORNPIPE**

All parts were generated by ↑AUTOBUSK according to the following input:

16 low winds (score 'HORN.PRM' – 6 runs through)

1 scale – chromatic

3 meters, one for each stream – [3x2x3], [3x3x2], [3x3x3]

parameter values (all streams the same, unchanged in time) – 12 200 1 18 0 38 1 0 38 0 64

15 high winds (score 'PIPE.PRM' – 5 runs through)

scales/meters – as in the low winds

parameter values (all streams the same, unchanged in time) – 12 200 1 18 1 60 1 0 72 2 64

3 percussionists (score 'DRUM.PRM' – 1 run through)

1 scale – chromatic

2 meters – streams 1 & 2 [3x3x3], stream 3 [3x3x2]

parameter values (parameters 1, 3 and 11 gradually change from beginning to end):

stream 1:	0	200	12~14	3	4	60	1	0	64	4	80~120
stream 2:	22~0	200	12~14	3	4	60	1	6	64	4	108~116
stream 3:	24~0	100	6~9	3	4	60	1	12	64	4	96~108

For the low winds, the values of p[arameter]6 and p9 are set to 38 (F2); those of p5 and p10 are set to 0; this results in the constant low tones. In comparison, the high winds have for p5, p6, p9 and p10 the values 1, 60, 72 and 2. The 3rd percussionist's part runs at double speed (p2), but the eventfulness (p3) is lower. 'Orchtalk' and 'Traumel' (↑6. SCORPIO, below) were worked in using MIDIFUSE.

4. **EXSEQUOR**

Fourteen segments of decreasing length (14, 13, … ♪) were defined in an accompanying control file for MIDILOOP; the first 105 eighth notes of the first unfiltered cycle of the passacaglia in *Chorale* (which was almost completely filtered away there) served as the input file for this program (↑Fig. 2a).

For each of the 1368 eighth notes, a presence protocol of the four orchestral groups was created, which displays a 'verticality' in the beginning (all present) and a 'horizontality' (only one present at a time) at the end (↑Fig. 9). The transition from vertical to horizontal was accomplished with the program MIDILIKE – a four-note random melody (representing the four groups) was transformed into three more, where the similarity index of 0% at the beginning created a cluster and the index 100% at the end created a monody. The output file was converted into a mouse simulation for ↑ORCHVIEW, whose censoring output was then entered into MIDIFUSE together with the result of MIDILOOP; its output was (as in *Chorale*) filtered by means of MIDIPASS.

5. **ORCHIDEA**

Here, no noteworthy compositional use of the programs took place; data entered by MIDIREAD was treated by MIDIJOIN and MIDIFUSE and checked by MIDINOTE and MIDIPLAY.

6. **SCORPIO**

For 'Orchtalk,' the spoken sample *why me*, *no money*, *my way* was entered into ANALYSE (↑FURIOSE); the resulting .FFT file was then put into FFT>MIDI, whose .MDK output was checked acoustically via MIDIPLAY and optically via SONAGRAM, and processed through MIDIEDIT until the results were correct. 'Glass cylinder' was by with a similarly named program a few years ago as an .MDK file; 'Traumel' was entered via MIDIREAD. All three were mixed by means of MIDIFUSE.

7. **PANDORA**

Here, AUTOBUSK was used for the first time for compositional purposes as a serial network: the MIDI output of the program running on the 'upper' computer was entered into the same on a program running on a second 'lower' computer. The piece was formally divided into several sections; the effective parameters, scales ('S') and meters ('M') of the first three sections listed on the left are shown in the following:

Section	Upper Computer	Lower Computer
"HAPPY"		
Voice 1:	24 240 4 8 4 85 1 6 92 8 64 S1 M1	12 125 12 3 3 61 1 8 80 8 64 S1 M2
Voice 2:	24 240 12 3 4 60 1 9 60 8 64 S1 M3	12 125 12 3 3 61 1 8 80 8 64 S1 M2
Voice 3:	24 240 12 3 4 60 1 9 60 8 64 S1 M3	12 125 12 3 3 61 1 8 80 8 64 S1 M2
"TANGO"		
Voice 1:	24 240 4 8 4 60 1 6 64 8 64 S1 M1	0 90 14 4 6 36 2 2 67 24 64 S2 M3
Voice 2:	24 240 12 3 4 36 1 9 64 63 64 S1 M3	22 180 7 2 2 36 3 4 51 6 64 S2 M2
Voice 3:	24 240 12 3 4 36 1 9 64 63 64 S1 M3	24 120 4 1 2 36 3 6 39 6 96 S2 M3
"SPAGHETTI"		
Voice 1:	0 215 6 3 63 64 1 0 64 63 64 S1 M1	0 90 11 4 6 36 2 6 67 24 64 S2 M4
Voice 2:	0 235 6 3 63 64 1 0 64 63 64 S1 M1	0 180 10 4 6 36 2 6 67 24 64 S2 M2
Voice 3:	0 235 6 3 63 64 1 0 64 63 64 S1 M1	0 120 7 4 6 36 2 6 67 24 64 S2 M3

S1: major scale; S2: iterative Phrygian pentachord e.g. **C** Db Eb F **G** Ab B C **D** Eb F G **A** …

M1: 2x2x2 (8/8); M2: 3+3+2/8 (additive!); M3: 2x2x3 (12/8); M4: 3x3x2 (18/8).

APPENDIX II: Texts on the Topic

a) On the (desolate) State of New Music or How to Effectively Defeat it (1989).

The best way is money. Introduce it wherever new ideas sprout and the matter is assuredly under control. Next best is fame.

Set up New Music distributors such as societies, foundations or radio station editorial boards. A stress on the term New Music will preclude possible confusion with other music forms, in which criteria such as quality play a role, thus safely averting the occasional embarrassing comparison with earlier music from before 1989. Furthermore, New Music should be clearly represented as a novel form of employment on the work market.

The installment of such institutions as above described rapidly lead to an active material exchange between Sound producing Suppliers and Sound Merchants. The more lucrative the apparent chances of profit, the larger the number of Suppliers and the more consumable the wares to be marketed. A characteristic of New Music is its obvious, yet clearly defined deviation from Absolute Comfort. This deviation - called relative discomfort (¢) - gradually decreases in the course (t) of the life of a Sound Supplier; the decrease can be accelerated through the application of an accordingly adapted average fee ($) as expressed in the formula d¢/dt = −$. If for example a certain "stubbornness" becomes apparent on the part of the Supplier, the fee should be raised in stages until the desired product attractivity is attained.

At the relative discomfort curve's downward transection of the upper comprehension threshold of a Sound Merchant (the so-called *Hmm-Point*), the marketing interest of the Merchant is rendered active. In the case of the course of the Sound Supplier's career tending towards probable termination, i.e. if high age is indicated, the Supplier should be additionally allocated in the marketing program as a profit incrementing role-model for the young, in special cases as cult figure. The encapturing of the Hmm-Point prior to the decease of the Sound Supplier is the Art of New Music.

Translator from the German: C. Barlow

b) ODE TO SAINT CECILIA (1987)

The view secure, in flight above the lawn / A haughty feathered friend of music be;
And through this songster's throat (but not for long) / Before it's caged and braised, a melody.

A supermarket oozing gentle sound / Sees fortunes spend with gray rapidity.

Be music but a fruit of love, pay on!
(If you think "can't afford enough", begone!) / And more we serve this fair commodity.

Enthusiast? Befuddled? But you're one! / It's FORM wherewith so sheer content we be.

A few would fain believe, obey, belong …
Here music – just the thing to lull the throng! – / Lets doubters yield to happy sanity.

With you, O bugle bright, men rise at dawn; / Their chore, to educate an enemy,
A jaunty march to spur their jollity.

Inquisitors, be full of lusty song, / And tortured yells disperse inaudibly.

Thus beauteous is music … / And more we serve this fair commodity.

APPENDIX III: Newspaper Reviews

Excerpts concerning *Orchideæ Ordinariæ* from reports on the concert on 20 October 1989, 8pm, in the Baar Sports Hall, Donaueschingen (total number of published copies in parentheses)

10/23/89 (DF = Donaueschingen Festival)

Stuttgarter Nachrichten/Stuttgart, Kreisnachrichten Calw, Backnanger Kreiszeitung / Backnang, Waiblinger Kreiszeitung/Waiblingen, Nurtinger Zeitung/Nurtingen, Gäubote/Herrenberg (643,042)

Dieter Kölmel: The DF has begun / **Throw it away – and Who Disposes of the Inherited Waste?**

Clarenc [sic] Barlow brings a cryptic and playful moment via an original instrumentation in the music of his "Orchideae ordinariae or The Twelfth Root of Truth" for large orchestra (with the sovereign and virtuosically supreme Kristi Becker playing solo piano). Nonetheless, Barlow shows an exaggerated addiction to originality. Through alienated quotes, he drives his music into parody. But one has been spoiled by Gerald Hoffnung in this sense.

Badische Zeitung/Freiburg & al. (165,491)

Heinz W. Koch: **The Path to Unflappability in Eight Movements** / Dieter Schnebel, Walter Zimmermann, Jonathan Lloyd: three who stood out above the mediocrity of the first two DF days

Chromium (*Gr. chroma = color*), *silver-white*, *very hard metallic element* (*symb. Cr*) *of the VIth subgroup of the periodic table of chemical elements. Atomic number 24. Atomic mass 51.996, density 7.2g/ccm. Melting point 1840 °C.*

What does this information have to do with the Donaueschingen Festival? Besides the fact that the definition can be found in the program, presumably very little. Clarence Barlow, the English-speaking Indian born in 1945, substitutes the lexicon entries in addition to four dozen others for an explanation of his work. And he who precisely takes them to heart understands the parodistic infiltration of a few key words. The title "Orchideae Ordinariae" also has very little to do with the music of the premiered 30 minute work. "Parody" helps there as well. The composer pokes fun those from the South-West Radio (Südwestfunk) who commissioned the work, at his listeners and the entire Donaueschingen novelty ritual. Smirk when he assures himself the assistance of significant parts of music history with quotes, when it sounds neo-Baroque, when it knocks its quasi-Asiatic way through the long-drawn viola song, stomps away like *Le Sacre* and wafts like Bruckner. Nonetheless, he does not have the courage hinted at to get out of step with this continuous as-if, and when he suddenly appends a cadenza recycling to the whole (virtuoso at the piano: Kristi Becker), he has already given up his (witty) ghost long in advance.

Schwäbische Zeitung/Ravensburg & al., Lindauer Zeitung/Lindau, Gränz-Bote/Tuttlingen (110,443)

Winfried Wild: **Cold Etudes and Expressive Song** / Contrasting Concerts at the First Two DF days

The opening concert closed with "Orchideae ordinariae or the twelfth Root of Truth" for large orchestra by Clarence Barlow. The little Indian, born in Calcutta, who bowed in a white coat and purple flat cap – and now teaches computer music in Cologne – is playing the fool. After a nonetheless formally witty playing through of a Baroque theme, first polyphonically, then in dissonant clusters, he transitions into a parody of Bruckner and solemn neo-romantic music and enters into an almost endless piano cadenza in ragtime rhythm. He, too, received patient applause.

Schwarzwälder Bote/Oberndorf & al., Oberbadisches Volksblatt/Lörrach (96,874)

mku: **Where Things Philosophical Bloom and Orchids Wither** / For the Opening, Works by Motz, Zimmermann and Barlow: Fine Soulache and Gross Programming Errors

What was going on with the also premiered "Orchideae ordinariae" by Clarence Barlow, extolled in the second part of the title as "The Twelfth Root of Truth," was indeed difficult to decipher. The composer, who comes from Calcutta and works in Cologne, composes according to mathematical formulae and with the help of the computer. Here programming errors must have slipped in – these orchids smelled

indeed very ordinary. The opening chorale revealed itself to be a sweetish hotch-potch, and also as a monstrous cacophony. Totally overripe followed then the satiated, labored quotes of classic composers, followed by silly ding-a-ling. Naturally, an ironic aspect in new music – however, good jokes always require substance and a clear goal.

Südkurier/Konstanz & al. (93,016)

se: **Future Music* with Past Pattern** / Moderate Modernity at the First Concerts in Donaueschingen

Everyone was in suspense about Clarence Barlow's "Orchideae ordinariae" – and one was rewarded with relaxation. Here, he fully reaches into the colorful chest of postmodernity – and out come in seven movements: patriarchally masked cantus firmus art with dissonant notes, effective forays into Stravinsky's rhythm store, strong scherzo borrowings from Bruckner and, as a climax, an orchid-hymn from the 19th century – uninhibited bombastic euphony. A work of New Sensuality and the equally New Austerity of the Senses. The New as parasitical import from the beauty of yesteryear – but effective.

*means as German idiom "castles in the air"

Generalanzeiger/Bonn (89,949)

Hans G. Schürmann: **Jokester at the Danube's Source** / Controversial Premiers at the DF 1989

With such a mood in the background, an equally serious as obtrusive jokester like Clarence Barlow had an easy game. His orchestra piece "Orchideae ordinariae or the Twelfth Root of Truth" – visibly provided for with huge sound investment, but with an ironic turn hardly making acoustic use of such – pokes fun at the neo-romantic allures of the neo-symphonists of the past years and denounces their fads as a vapid warming-up of convenient clichés. There is humor in the exaggeration of the "skewed" montage of apparerent or approximate quotes from Mahler, Gounod e tutti quanti, slips nonetheless all too quickly into humorless boredom, where Barlow takes up the opportunity for instrumentation exercises of his own. It somehow comes across as a planned retreat into the central realm of his compositional fantasy when he has the piece end with a long piano solo (played with enchanting mastery by Kristi Becker).

Südkurier/Donaueschingen (17,507)

Dr. Volkhard Huth: **Music Festival Between Delight and Frustration** / Jazz Session emptied Baar Sports Hall – Inspiring "London Sinfonietta Voices"

Clarence Barlow's "Orchideae Ordinariae or the twelfth root of truth" in the second half of the concert rather aroused mirth; the Indian, who teaches in Cologne, interspersed his composition with all types of "classical" borrowings. Sound-perfectionists, nonetheless, frowned on Friday evening in view of – or better: at the sound of the general background noise in the Baar Sports Hall.

10/24/89

Stuttgarter Zeitung/Stuttgart (556,358)

Max Nyffeler: **Back to the Greeks** / Diversified DF 1989

… (piece not mentioned)

Tages-Anzeiger/Zürich (259,490)

Thomas Meyer: **Movement in the Outer Districts** / Luigi Nono, Wolfgang Rihm and Swiss Jazz Musicians to the DF

There, the Indian Clarence Barlow from Cologne had it easier with his witty piece "Orchideae Ordinariae or the Twelfth Root of Truth," packed with quotes, which at least amused the audience.

Abendzeitung/München (217,501)

Marianne Reißinger: **A Fashion Show of Contemporary Music** / DF with New Works by Nono and Rihm

Clarence Barlow (44) is pleased with himself in "Orchideae ordinariae or The Twelfth Root of Truth" with loquacious additions of paraphrases and stylistic borrowings between Purcell and Wagner, and tastefully sprinkles in experimental elements.

Schwäbisches Tagblatt/Tübingen, Göppinger Kreisnachrichten/Göppingen, Geislinger Zeitung/ Geislingen (104,049)

Helmut Hornberger: **The End of the Modern Can Hardly Be Reported** / Nine Premieres and Three First Performances at the DF

Not even Clarence Barlow, with the computer-composed "Orchideae ordinariae or The twelfth root of truth" for large orchestra contrasts "postmodern" simplicity with supposedly esoterically encrypted "cerebral music," for even when his music is grantedly minimalistic, it is indeed very complex. Whether or not this type of composition leads onwards, or anywhere, may be anyone's guess; for the laughs remain stuck in one's throat with this strangely rigidly sounding music processing all of tradition through the computer, yet ultimately based on superficial effects, because it would ultimately be that laugh of little intelligence of musical spoof à la Hoffnung Music Festival in London.

Observer/Wien, Salzburger Nachrichten

Thomas Meyer: The jazz evening as climax of the DF this year – decisive compositions only from Nono and Rihm / **Composition Stood This Time in the Shadow of Improvisation**

There, the Indian Clarence Barlow from Cologne had it easier with his witty piece "Orchideae Ordinariae or the Twelfth Root of Truth," packed with quotes, which at least amused the audience.

Basler Zeitung/Basel

Klaus Schweizer: **New, Quite New But Indeed Old** / Thoroughly Mixed Impressions of the DF This Year, The Sample Fair of the Avante Garde

After all, Clarence Barlow, an Indian living in Cologne, revealed himself to be a highly talented player of those sheer computer keyboards that can draw, drained of meaning, a broadly covered music historicality into the shimmering contemporary game. For a good half-an-hour, Barlow hit his auditorium over the head with stomping "Sacre" rhythms, Bruckner insertions and "Jeu de cartes" classicity with Mahler exaltation, always leaving in abeyance thereby whether he wanted to illuminate his own or only the presumed homelessness of his listeners.

10/25/89

Hannoversche Allgemeine Zeitung/Hannover & al., Schaumburger Nachrichten/ Stadthagen (442,584)

Volker Hagedorn: **Journey Into the Depths of Sounds** / Impressions from the DF

With Clarence Barlow's "Orchideae ordinariae," one entered the "exciting new future world of modern art technologies" – or that which the composer considers this to be. His assistant is said to have hammered away at the computer for four months – yet, as interesting as the software might be, the resulting soundware tempted one more to laugh. While Baroque polyphony sounded like an odyssey through the chips, as if a fugue had been cut up and incorrectly reassembled, parts of Stravinsky's "Sacre" were clearly recognizable as was the trumpet fanfare from Mahler's first. Well …? He who did not already know it learned here that the path to triviality can also lead through electronics.

Kölner Stadt-Anzeiger/Köln, Leverkusener Anzeiger/Leverkusen, Oberbergischer Anzeiger/ Gummersbach, Rhein-Sieg-Anzeiger/Siegburg (331,713)

Gisela Gronemeyer: Important Information Exchange: The Music Festival at Donaueschingen / **A Computer Quotes Sinatra** / Composers From Cologne Were Also Present

That computer music would one day find its way to Donaueschingen would have been presumed impossible. Though in decent form: No computer was on the stage that perhaps spat out the music directly; rather, the Indian-born Clarence Barlow, computer specialist number 1 in the Federal Republic, fed the computer quotes from classical-romantic and world music for his "Orchideae Ordinariae," and muddled it all into an original composition. The Frank Sinatra quote "I did it my way" makes a transition into a piano solo that demonstrates the more serious side of the computer.

Mannheimer Morgen/Mannheim, Weinheimer Nachrichten/Weinheim (186,657)

Stefan Koch: **Imprisoned in Sound Space** / With Works by Luigi Nono and Wolfgang Rihm the Festival, Nonetheless, Did Still Have a Climax

Clarence Barlow's "Orchideae Ordinariae" followed one of those ironic expeditions through symphonic music history, which begin in a witty way, but quickly bore in their supersaturated profundity. Very many, too many notes …

Neue Züricher Zeitung/Zürich (149,520)

hmn: **Much Labor, Little Yield** / DF 1989

The contributions of two outsiders brought some movement into the anemic round dance. In the first orchestra concert, Ingo Metzmacher conducted "Orchideae ordinariae or the Twelfth Root of Truth" (whatever that means) by the 45-year-old Clarence Barlow, who was born in Calcutta and is active in Cologne – a cheeky piece, so refreshing for that very reason. Unabashedly and non-academically, Barlow satirizes the orchestra, its gestures and its sounds, plays with conventional goods, juggles with quotes and banal symbols – and when one believes the end has arrived, the work transitions into an endless piano cadenza, which robs every listener of the courage to revolt.

Neue Osnabrücker Zeitung/Osnabrück, Grafschafter Nachrichten/Nordhorn, Lingener Tagespost/ Lingen, Meppener Tagespost/Meppen (145,539)

Reiner Kobe: **Rebellions No Longer Take Place** / The DF 1989

Lesser known, younger composers orientate themselves primarily on older models. Program music for large orchestra alternates with post-modern gestures. One often had to look at the gassy program booklet to get to the bottom of the music. One thus understood the parody that the Indian Clarence Barlow, who lives in England, intended with his "Orchideae ordinariae." Borrowings from Bruckner are undertaken there, rhythms of Stravinsky rolled out and a 19th century orchid hymn is offered.

Allgemeine Zeitung/Mainz (65,759)

Achim Heidenreich: **Not Jarring and Also Not Nasty** / Representatives of the Avantgarde Are Tamed: Observations at the DF

And the audience was almost angry at Clarence Barlow's "Orchideae Ordinariae." A coarse montage was made. Gustav Mahler sounded note for note and seemed more from the future than Barlow.

Der Landbote/Winterthur (40,402)

Rudolf Werner: Report on the DF: Premieres and First Performances / **Nine Premieres, Insignificant and Masterful**

"Orchideae ordinariae," for large orchestra, by Clarence Barlow, an Englishman born in 1945 in Calcutta, is perceived to be hardly blossoming, but indeed lavishly running wild with its neo-classical borrowings and the interspersed quotes according to the old entertainment motto: who recognizes the melody?

Fuldaer Zeitung/Fulda (35,725)

Reiner Ruhl: **The Percussionist in the Circle of Timpanis** / Impressions from the DF – Material Collection of Metallic Sounds of Cultures

Clarence Barlow's piece Orchideae Ordinariae came across as almost embarrassing, in contrast. Laughter emerged (rightfully) from the audience at his borrowings from march music, Gustav Mahler and Tchaikovsky.

Nürnberger Zeitung/Nürnberg (32,049)

Thomas Röder: **Realklang and Alienation** / Wolfang Rihm has Reached Refusal – Walter Zimmermann Illustrates Epicurus With Piano Concerto

Clarence Barlow's "Orchideae ordinariae," for large orchestra, seemed to refuse such traditionalism despite abundantly played out symphonic quotes: they rather showed an uninhibited, witty, and in this sense scandalizing composer (Barlow hitherto attained prominence primarily with music supported by computer).

10/26/89

Neue Ruhr Zeitung/Essen & al., Neue Rhein Zeitung/Düsseldorf (500,094)

Johannes K. Glauber: **Off to the Ancient Greeks!**

An annoying mixture of run-of-the-mill empty phrases and stylistic copies with the title "Orchideae ordinariae" by Clarence Barlow. One best remains silent [about that] …

Frankfurter Allgemeine Zeitung/Frankfurt am Main

Gerhard R. Koch: **Riehm, Nono, Rihm** / Three Highlights at the DF

Things pianistic and quasi-electronic dominated also in the opening concert by the South-West Radio (Südwestfunk) Orchestra under the splendid young Ingo Metzmacher. The latter applied above all to "Orchideae ordinariae" by the Indian Clarence Barlow, who lives in Cologne, who works primarily with computer music. A lot of mechanical formula output of the computer emerges in the orchestra: playing patterns from instrumental music practice make their way back into orchestral actionism again through a computer process. Add quasi-quotes and a real integration of the Scherzo from Bruckner's Eighth. That was effective and documents dignified skill in the use of collage technique, nonetheless comes across generally stale.

Bremer Nachrichten/Bremen, Weser-Kurier/Bremen

Hartmut Lück: **Sounds for Sharpened Ears** / DF 1989: Highlights and Empty Spots Alternate With One Another

… "Orchideae Ordinariae" by Clarence Barlow, who worked with quotes in a truly worn-out way and in such delivered a paper- and computer music frighteningly boring and meager.

10/27/89

Hessische Niedersächsische Allgemeine/Kassel, Northeimer Neueste Nachrichten/Northeim, Hofgeismarer Allgemeine/Hofgeismar, Fritzlaer-Homberger Allgemeine/Fritzlar, Eschweger Allgemeine/Eschwege, Rotenburg-Brebraer Allgemeine/Rotenburg, Harz-Kurier/Herzberg (168,511)

Bernd Müllermann: DF 1989 / **Is There a Way?**

Thereafter Clarence Barlow, the computer music expert from Cologne, with "Orchideae ordinariae," orchestral music possibly inspired by the computer, witty, ironic, affectionate and sneaky – a colorful, flamboyant personality.

Der Bund/Bern (62,926)

R, Ko.: 40 Days of Festival Took Place in Donaueschingen: Thirteen Works, Nine Were Premieres / **Orientated on Old Models**

Lesser known, younger composers orientate themselves primarily on older models. Program music for large orchestra alternates with post-modern gestures. One often had to look at the gassy program booklet to get to the bottom of the music. One thus understood the parody that the Indian Clarence Barlow, who lives in England, intended with his "Orchideae ordinariae." Borrowings from Bruckner are undertaken there, rhythms of Stravinsky rolled out and – of course – an orchid hymn from the 19th century is offered.

Reutlinger Generalanzeiger/Reutlingen (48,450)

Eberhard Stiefel: **The Unfolding of Sound in Space and Time** / DF 1989: A Documentation of the Versatility and Mobility of New Music

… and Clarence Barlow's chaotic, computer driven "Orchideae ordinariae."

Die Zeit/Hamburg

Heinz Josef Herbort: **From Sound to Sound** / New Listening at the DF (and at the "Grazer Musikprotokoll")

… (piece not mentioned)

Saarbrücker Zeitung/Saarbrücken

Doris Döpke: **Luigi Nono's Solitary Wanderer on G** / A Lot of Slackness and a Stirring Closing Concert at the DF

Clarence Barlow's "Orchideae ordinariae" have something of a "world music" dictionary: counterpoint which reminds one of medieval polyphony; a Bruckner quote; echos of Stranvinsky's "Sacre" or of Javanese gamelan music. A puzzle. For a simple joke it is too worked-out, too lengthy; if one however takes it seriously, the arbitrary disposal of music and cultures of times past becomes annoying.

Süddeutsche Zeitung/Fürstenfeldbrück & al. (29,397)

Wolfgang Schreiber: **The Way Composition is Progressing** / The DF Remains Attractive

A skillfully assembled symphony of quotes by Clarence Barlow was premiered.

Handelsblatt

Armin Friedl: DONAUESCHINGEN / Acoustic and Electronic Music / **Reconciled Worlds**

… to the obligatory "gag" – Clarence Barlow mixed the highly detailed expansion of the smallest rhythmic and melodic elements with post-romantic sweetness.

10/29/89

Taggesspiegel/Berlin (134,353)

Sybill Mahlke: **From the Sides of the Dream** / DF: Premieres by Schnebel, Kalitzke and Rihm

In conclusion, the symphony orchestra of the South-West Radio (Südwestfunk), conducted by Ingo Metzmacher, turned to the half-hour premiere of "Orchideae Ordinariae" – a piece in which Clarence Barlow, born in Calcutta, proved that the computer can not only find a Bach with little green Martians' eyes, but peer over Bruckner's and Wagner's shoulders as well.

10/30/89

Frankfurter Rundschau/Frankfurt (304,003)

Bernd Feuchtner: **The Downfall of the Western World?** / Woes of New Music in Donaueschingen

… the symphony orchestra of the SWF gave its best for Clarence Barlow's "Orchideae ordinariae" – especially under the direction of Ingo Metzmacher, whose debut in Donaueschingen was thoroughly successful, and showed competence and musicality. Barlow plucked a few orchids of classical music, but when known sounds are scattered into the motor-like purring of the orchestral ragings and deformed, not much more than a good laugh results. Here, humor evidently deserted the jokester.

Rhein-Neckar-Zeitung/Heidelberg & al., Nordbadische Nachrichten/Buchen (115,924)

Alexander Pschera: **Restriction, Mediocrity, Abundance** / Comments on the DF 1989

… the orchestral piece "Orchideae ordinariae or the twelfth root of truth" (1989) by the computer music specialist Clarence Barlow. This pole of abundance of the sound gestures quoted from all sides (Berlioz, Mahler, Stravinsky…), play, in part quite skillfully, with the expectations and the harmonic needs of the listener. Irony is employed as a primary category here. For Barlow never really means what he writes, rather juggles with it, structurally bound by the synthetic sound layerings of electronic music.

NEW AT FEEDBACK

CLARENCE BARLOW

VARIAZIONI E UN PIANOFORTE MECCANICO 1986
for a pianist and player piano, 25 min., premiere Oct. 1986 The Hague
rentable material (Atari Diskette 1040 ST 3 ½" or cassette for Marantz Pianocorder), FB 8607

FRUITTI D'AMORE 1988
for violoncello and electronics, ca. 25 min., premiere Jan. 1988 Cologne
rentable material (on Atari Diskette 1040 ST 3 ½"), FB 8805

ORCHIDEÆ ORDINARIÆ OR THE TWELFTH ROOT OF TRUTH 1989
for large orchestra (with solo piano), commissioned by South-West Radio (Südwestfunk), ca. 35 min., premiere Oct. 1989 Donaueschingen
rentable material, score (84 x 40 cm), 50 pages, FB 8903

Feedback Papers 34:
Klarhenz Baarlo: Von der Musiquantenlehre, ca. 64 pages, A4, bound (in preparation)

JOHANNES FRITSCH

X '88
for viola, cello, double bass
material rentable, score 12 pages, bound A4, FB 8803

HOHES LIED 1988
for mezzo-soprano, counter-tenor, alto flute (in G), clarinet (in A), trombone and 3 tree trunks (version for mezzo-soprano, counter-tenor, clarinet and tree trunks possible), premiere Cologne 1989, recording by the Hessian Radio (Hessischer Rundfunk), material rentable, score 32 pages, bound A4, FB 8804

QUARTET 1989
for flute, 2 pianos and percussion, premiere Berlin 1990, material rentable, score 22 pages, bound A4, FB 8907

TRIO 1990
for bass clarinet, contrabass and piano, premier 1990 Kiev, material rentable, score 8 pages, bound A4, FB 9002

VOLKER STAUB

NR. 12 1986-88
for cello, 13 wood drums, Htr. X, 6 grenade casings, 3 tree trunks, "bass drum"; composition in 7 parts, ca. 30 min., premiere Cologne 1988, material rentable, score approximately 100 pages, bound A4, FB 8801

NR. 13 1988
for trombone and organ, ca. 13 min., premiere Cologne 1988, material rentable, score 24 pages, bound A4, FB 8904

NR. 14 1984-89
Part I: for bass flute, 10 stones (white marble, black marble, alabaster), 5 wood block drums, 3 low wooden drums, Htr. X, "bass drum" and horizontal iron sheet (100 x 69-71 x 1 cm), ca. 14 min.
Part II: instrumentation same as Part I, ca. 9 min.
Part III: for alto flute, clarinet in A and piccolo trumpet, ca. 25 min.
Part IV: instrumentation same as Parts I-III plus violin, ca. 22 min.
material rentable, score ca. 140 pages, bound A4, FB 8901

NR. 15 1989
for orchestra
rentable material, FB 8902

NR. 17 1990
Music for the "Projekt Südbrücke," rentable material, FB 9001

FEEDBACK PAPERS 35: Georg Hajdu "Harmonische Energie," Jutta Rinas "Das musikalische Denken B. A. Zimmermanns," 60 pages, A4, 15.00 German Marks