

## Construction of *CONSTRUCTION*

### Origins

In anyone's life there are some experiences with such a deep impact that they continue to resonate for many years afterwards, and perhaps require those years of resonance in order finally to be assimilated and achieve expression. In connection with *CONSTRUCTION*, one such experience was of taking part in the first complete performance in 1984 of Cornelius Cardew's *The Great Learning*. This is a cycle of compositions, taking two evenings to perform in its entirety, for a large collective of improvising performers, based on texts from Confucius and written between 1969 and 1972 for the Scratch Orchestra, an experiment in collective musical creativity of which Cardew was a founder member and whose aesthetic identity was to a great extent defined by *The Great Learning*. This work consists of seven "paragraphs" corresponding to the division of the original text, and the longest of these is Paragraph 5, for which the score gives a duration of two hours. It consists of two halves, the first a kind of collage of various different kinds of events taking place simultaneously: songs, improvisations, sonic and structural suggestions, theatrical actions... all of which have a clear and identifiable sense of purpose and discipline (the concept of discipline is central to the text of paragraph 5), even when several are happening at the same time. The second half of Paragraph 5 is a free improvisation by the same performers, who in our performance numbered 30 or 40, including many former Scratch Orchestra members. (Cardew himself was killed in a road accident in 1981.)

Something that stuck in my mind about this experience was the way that this improvisation, despite being in many different senses "anarchic", was somehow informed and imbued with particular qualities by the actions which preceded it, and by their disciplined nature, without Cardew having had to say anything in the score about *how* the performers should approach it. Maybe this isn't so very distantly removed from the relationship between head and solos in a jazz performance, but in the case of Paragraph 5 of *The Great Learning* this phenomenon is at the same time reduced to its essentials and expanded into a structural principle on a large scale.

Subsequently, when my own work began to focus increasingly on the many possible roles of spontaneous musical action within different kinds of precomposed framework, I constantly recalled this experience and the way it might create the conditions for the creation of something whose identity as a composition will have clarity without being defined in advance to the point of giving instructions to performers, instead providing the performers with a precisely-imagined common point of departure and thereafter leaving them to use their imagination and sense of responsibility. This seemed to me, as it no doubt seemed to Cornelius Cardew, to be trying to say something about how a society in balance with itself might become self-organised, so that the idea had resonances far beyond addressing the relationship between improvisation and preparation in narrowly musical terms.

When I began thinking about *CONSTRUCTION* in 2005, its central ideas came into being in the course of a single day, and evolved over the years without altering their fundamental "theme", which is concerned with the relationship between utopian thinking and reality. Before I go further into that theme, I should also mention that I conceived *CONSTRUCTION* as being the last part of an even larger cycle of compositions with the collective title of *Resistance & Vision*, which refers principally to the motivations to create music which offers, firstly, *resistance* to the insidious penetration of corporate values and (therefore) dumbing-down into all aspects of culture, and, secondly, a *vision* of how music (and, by extension, its social context) could possibly be otherwise; and, naturally, these two motivations are two facets of the same one. Six of the eight *Resistance & Vision* compositions are now complete. Here's an overview of the whole cycle:

1	<i>NO</i>	orchestra	21'
2	<i>Dying Words</i> *	voices, instruments, electronics	50'
3	<i>cell</i>	alto saxophone, accordion, contrabass	14'
4	<i>L</i> *	music theatre	75'
5	<i>Mesopotamia</i>	17 instruments & electronics	25'
6	<i>IF</i>	orchestra	16'
7	<i>nacht und träume</i>	cello, piano, electronics	20'
8	<i>CONSTRUCTION</i>	voices, instruments, electronics	120'

\* = incomplete at the time of writing (December 2011)

*CONSTRUCTION* then is by far the largest element in this cycle, occupying about a third of its total six-hour duration, and forms a conclusion to it. The title is to be explained principally by the frequent presence in my mind, while I was working on it, of the image of Vladimir Tatlin's unrealised architectural project, the "Monument to the Third International", a huge steel structure containing symbolic/functional elements rotating at different speeds which was intended to be built in St Petersburg in the years after the Russian Revolution, but was never actually started owing to material shortages. Despite existing only in the form of plans and models, this tower became a defining symbol for the Constructivist movement, the avant-garde of the early years of Bolshevik Russia, and for me is a kind of non-existent monument to all unrealised and unrealisable utopian visions. Hence *CONSTRUCTION*.



## Instrumentation

This is the instrumentation of *CONSTRUCTION* together with the names of the participants in the first performance):

piccolo, alto and bass flutes (Paula Rae)  
sopranino (x2), soprano (x2), alto, tenor and bass recorders\* (Genevieve Lacey)  
oboe and english horn\* (Peter Veale)  
alto and tenor saxes, clarinet in A, bass and contrabass clarinets\* (Carl Rosman)  
baritone sax, clarinets in Eb, Bb and A, bass and contrabass clarinets (Richard Haynes)  
bass sax and bass clarinet\* (Timothy O'Dwyer)  
bassoon (Dafne Vicente-Sandoval)  
flugelhorn and piccolo trumpet (Tristram Williams)  
alto and tenor trombone\* (Benjamin Marks)  
electric guitar and lap steel guitar (Daryl Buckley)  
baroque triple harp (Marshall McGuire)  
percussion (Domenico Melchiorre)  
violin (Graeme Jennings)  
viola (Erkki Veltheim)  
cello (S  verj  ne Ballon)  
contrabass (Joan Wright)  
electronic keyboard/computer (RB)  
3 voices: soprano (Deborah Kayser), alto (Ute Wassermann), countertenor (Carl Rosman)  
3 sound projectionists (Steven Adam, Lawrence Harvey, Michael Hewes)  
conductor (Eugene Ughetti)

... making 23 performers in all. The players marked with an asterisk actually play more instruments than I've listed, because, as will be described below in more detail, one section specifies that four solo wind players each play at least three unspecified instruments and in fact as many as possible, including especially folk and "early" instruments alongside or instead of the "classical" ones; and another section contains parts for two improvising soloists which can be played with any combination of instruments/voices.

This is a panoramic view from behind the stage of the layout of the instruments and voices, taken by sound projectionist Lawrence Harvey during a rehearsal.



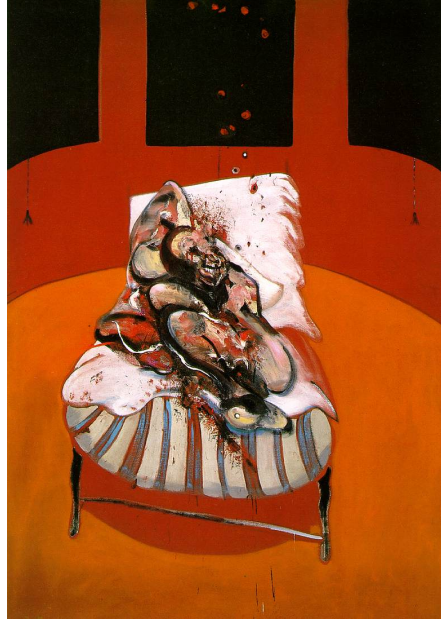
## Form

On the largest scale, the form that *CONSTRUCTION* takes is of four interwoven strands or cycles, each consisting of five parts, some of which can also be performed separately, as indeed several were in the six years during which composition was in progress.

Two of these cycles relate in diverse structural/poetic ways to utopian ideas, one of them principally vocal-instrumental, and the other featuring electronic sounds. The other two cycles represent realities with which these utopias are confronted: one is a highly-abridged setting in ancient Greek of the *Trojan Women*, a tragedy by Euripides, and the other is a series of pieces I think of as “laments” which feature solo violin and together form a five-movement composition entitled *wound*.

Euripides’ play has little in the way of action, focusing on the women of Troy outside their burning city after it’s been sacked by the Greek army, who have murdered their husbands and children and are about to take them back to Greece as slaves and concubines. The first production of this play took place in 415 BCE, and in its time seems to have been an explicitly political piece of theatre, in that Euripides depicts the Greeks as marauding barbarians rather than the pinnacle of civilisation their intelligentsia tended to believe themselves to be: this was a comment on the recent slaughter by Athenian forces of the population of the island of Melos after they refused to join Athens in its alliance against Sparta. The theme of (the ruling class of) a country priding itself on its moral and cultural superiority while laying waste to other countries and subjugating their populations is of course just as current now as it was two and a half thousand years ago. Each of my five “scenes” is taken from a speech by one of the Trojan women, except the fifth and last in which a “chorus” of two voices is added in dialogue with the character Hekabe.

In the violin solos, on the other hand, the violin is intended to “inhabit” its accompaniment in an analogous way to that in which the tortured figures in the paintings of Francis Bacon inhabit their backgrounds. This example is from his *Three Studies for a Crucifixion* from 1962.



The diagram below shows how the four cycles are combined into the complete two-hour structure.

	CYCLE 1 with electronics	CYCLE 2 vocal/instrumental	CYCLE 3 (The Trojan Women)	CYCLE 4 (violin solos)
1	<i>strange lines and distances</i> (2')			
2		<i>Politeia</i> (9')	<i>Hekabe-a</i> (4')	
3				
4				<i>wound I</i> (2')
5			<i>Kassandra</i> (4')	
6		<i>heliocentric</i> (15')		
7	<i>Ommaggio a Chirico</i> (6')			
8			<i>Andromakhe</i> (4')	
9				<i>wound II</i> (4')
10		<i>news from nowhere</i> (7')		
11	<i>storming</i> (3')		<i>Helene</i> (4')	
12				<i>wound III</i> (5')
13		<i>island</i> (11')		
14				
15	<i>Simorgh</i> (11')			<i>wound IV</i> (3')
16			<i>Hekabe-b</i> (4')	
17				<i>wound V</i> (1')
18				
19		<i>Germania</i> (2')		
20	<i>ON</i> (20')			

It's easy to see various structural proportions here on this large scale: for example, cycle 3 consists of five elements of equal duration which are increasingly separated as the form progresses, while cycle 4 consists of elements with durations 1, 2, 3, 4 and 5 minutes (though not in this order) which become closer together. Cycle 1 and 2 pieces are always paired with one another. What the diagram doesn't show is that sometimes these elements overlap with one another so that part 19 actually begins before the end of part 17 and continues throughout part 18, and that sometimes the cycles "touch" each other as in *wound IV* which contains a setting of a chorus from the Euripides play. Another aspect of structural planning on the level of the whole piece is the instrumentation: the violin in cycle 4 begins accompanied by two other instruments, and the accompanying group expands according to a Fibonacci series so that in *wound V* it contains 13 instruments and voices. (Although the version of *wound* which is played separately involves 2, 3, 5, 3 and 2 instruments alongside the violin in its five movements.) Each piece in cycle 3, on the other hand, has a distinctive and different instrumentation, using between them almost all the available instruments



although the harp appears in all five. As you can see from the list of instruments, this isn't a normal concert harp but a baroque harp with three rows of strings, which are here retuned to enable 21 out of the 24 quartertones in each octave to be played over most of the harp's overall range.

Cycles 1 and 2 don't form consistent series like the others, and tend to contain longer elements: one part of cycle 2 lasts as long as all of cycle 4, and the final part of cycle 1 is as long as all of cycle 3. So the shortest "movement" is one minute long and the longest is twenty, and features like this together establish a kind of "scale of proportions" which spans the extremes between short durations with a huge amount of energy and activity, and on the other hand long durations with a low density of events; and also vice versa and various points in between. In other words, the extended duration of *CONSTRUCTION* in its entirety doesn't involve a corresponding extension in the durations of its constituent parts so much as an extension in the *range* of their durations.

There exist many other kinds of reflection, resonance and correspondence between the twenty sections so that they're perceived as elements in a single entity constructed from diverse materials, rather than as separate pieces compiled into a collection. On the other hand, the transitions between them proceed by confrontation more often than by continuity, this feature being of course an expression of the overall concept of confronting utopias and reality.

All the instruments are amplified of course, and central to the concept of the work is a spatialisation system which was developed by Lawrence Harvey and his collaborators at the Royal Melbourne Institute of Technology. The original stage plan, which we developed together with some of the musicians in the course of a series of improvisational performances (my composition *codex IX* was specifically designed for this purpose), involved putting them in the centre of a performing space, surrounded by the audience, who would in turn be surrounded by a dome-shaped array of 16 speakers. This wasn't possible in Huddersfield Town Hall, where the first performance took place, since it's a conventional concert hall with a stage, and hanging speakers from its high ceiling wasn't practical, so that instead we used two rings of eight speakers each, one ring at audience level and one around the gallery, with the speakers staggered in a zigzag pattern. Here is another panoramic photo, this time from the audience area, where a number of speakers can be seen on both levels.



The technique used for real-time spatialisation of the sounds in three dimensions - vocal and instrumental sounds principally, since most of the electronic sounds were composed already in 8 channels - was DBAP or distance-based amplitude panning. DBAP works by applying gain to each speaker in an array in inverse proportion to the distance between that speaker and the desired source position. In comparison with other three-dimensional sound-projection techniques like VBAP (vector-based amplitude panning) and Ambisonics, DBAP offers improved localisation of sounds and also doesn't begin by assuming a particular position for the listener. In comparison with Wavefield Synthesis, which indeed offers still clearer spatial definition wherever a listener is positioned, DBAP is more adaptable to performing spaces of different shapes and sizes and is generally more practical for touring purposes in not requiring large amounts of specially-built hardware.

In the following brief guide to *CONSTRUCTION*, the timings after the titles refer to those in the first performance on 19 November 2011.

### 1: *strange lines and distances* (0'00")



This is a two-minute eight-channel electronic piece, whose title comes from *The New Atlantis* by Francis Bacon (the sixteenth-century philosopher, not the twentieth-century painter, although they are believed to have been related) in which a traveller to the eponymous utopian land is given a guided tour of its marvels. One of these is described in the following terms:

"We have also sound-houses, where we practise and demonstrate all sounds and their generation. We have harmony which you have not, of quarter-sounds and lesser slides of sounds. Divers instruments of music likewise to you unknown, some sweeter than any you have; with bells and rings that are dainty and sweet. We represent small sounds as great and deep, likewise great sounds extenuate and sharp; we make divers tremblings and warblings of sounds, which in their original are entire. We represent and imitate all

articulate sounds and letters, and the voices and notes of beasts and birds. We have certain helps which, set to the ear, do further the hearing greatly; we have also divers strange and artificial echoes, reflecting the voice many times, and, as it were, tossing it; and some that give back the voice louder than it came, some shriller and some deeper; yea, some rendering the voice differing in the letters or articulate sound from that they receive. We have all means to convey sounds in trunks and pipes, in strange lines and distances."

*Strange lines and distances* was made in a very simple way. First I made a recording of my nine-year-old daughter Siân speaking the text. At the beginning of *CONSTRUCTION* I wanted to emphasise the naive and childlike side of utopian ideas, the lack of concern over *how* such societies could actually come into being, which is a topic *CONSTRUCTION* returns to later on, towards the end. Also, having spent her life between London and Berlin, under the additional influence of Australian and Canadian teachers and Irish friends, to name only these, Siân's spoken English sounds as if it could easily come from some non-existent place. And Bacon's "sound-house" is so to speak an "actually existing" utopia enacted by the music and technology of *CONSTRUCTION*.

During the course of two minutes, the kinds of sonic transformations the voice describes are applied to the voice itself, becoming more "distant" from the original voice with each sentence and eventually almost submerging it.

### 2: *Politeia* (2'02")

This is the original title of the text by Plato known in English as *The Republic*. The music is very far from being an illustration of Plato's work of course. Book III of the *Republic* makes it clear that in an "ideal city", music should be restricted to those instruments, modes and rhythms which express warlike bravery and thus are "expressions of a courageous and harmonious life". Plato's ideal city embodies other ideas which were eventually to find their expression in authoritarian régimes of the twentieth century, such as eugenic breeding programmes. What this music does is enact a confrontation between two kinds of music played by two groups of instruments: an octet of saxophones (tenor, baritone and bass), bassoon, trombone and strings playing ordered, layered, almost mechanical music, alternating with a quintet of recorder, flugelhorn, percussion, electric guitar and harp which plays music of a more heterophonic, interwoven, flexible and irregular quality. The music of the first group eventually differentiates into more complex and tangled textures and increasingly resembles the second, until at the end of the piece they merge together. The music should on the other hand not be misinterpreted as crudely illustrative; it also for example serves to express in concentrated form the structural principle of confrontation which articulates the large-scale form of *CONSTRUCTION*.

### 3: *Hekabe-alpha* (12'48")

This opening part of the Trojan Women cycle has already begun before *Politeia* ends, with roughly-accented contrabass harmonics which combine with the harp continuing its texture from the closing passage of *Politeia*, but now in fragmented form. The setting for the tragedy is then completed by the entry of piccolo, sopranino recorder and two contrabass clarinets, and finally Hekabe herself (contralto), who raises herself wearily from the ruins to bemoan her fate and that of Troy.

Ancient Greek used three different pitch-accents as well as organising its poetic meters around patterns of long and short syllables, so any versified text in that language already contains latent musical parameters which can be employed or ignored in a musical setting. In *Hekabe-alpha*, both pitch-accents and agogics form the basis of the musical material.



#### 4: *wound I* (17'15")

This in fact takes the form of a brief "interlude" between the first two *Trojan Women* scenes. The solo violin and the oboe play as a single sonic "being", grating against one another heterophonically in a continuation of Hekabe's lament and set against an ostinato played by the cello (which returns in *wound IV*) - in each movement of *wound* the relationship between the violin and its "accompaniment" takes a different form (this too might not be unrelated to Francis Bacon's tendency to conceive works as groups of "studies" comprising different views of - or into - the same "subject").

#### 5: *Kassandra* (19'40")

This is a solo for soprano voice with accompaniment of oboe, clarinet, alto saxophone, flugelhorn, harp and viola; all seven "voices" can occupy the same pitch-range, and do so in the tangled web of musical threads which forms its first section. The text of this section comes from Kassandra's first speech, in which she sings an exuberant and formulaic wedding-song in "celebration" of her forthcoming abduction into slavery as the concubine of Agamemnon. A chorus following this speech pities Kassandra for having descended into insanity and no longer being aware of the privations she is about to endure. This chorus isn't set to music here, but instead a short instrumental passage leads to an excerpt from Kassandra's following speech, in which she goes on to relate how, instead of a wife, it will be one of the three Furies that Agamemnon takes back to Greece and that she will take revenge by bringing down the house of Atreus. Which indeed is what's going to happen in the next part of the myth, although Kassandra's gift of prophecy is of course combined with the curse that nobody ever believes what she says.

The vocal part of *Kassandra* takes no notice of the ancient Greek pitch-accents but uses the metrical durations as the basis for its structural durations, although this time often greatly extending the long durations into florid melismata. In the first "verse", the voice and the six instruments all follow the same pitch-structure at different speeds, with different intervallic augmentations; that is, stretching and compressing the same material both horizontally and vertically, with each instrument "interpreting" this structure in terms of techniques specific to it. You can readily hear how the seven melodic threads constantly split apart and reform, coalescing into unison for a brief moment, then anticipating or echoing one another. In the second "verse" following the instrumental bridge passage, the instrumental parts become more static, forming highly-embellished blocks of sound through which the voice weaves its prophecy. The music stops abruptly, as if suddenly cut off, and *heliocentric* begins softly and mysteriously after a silence.

#### 6: *heliocentric* (24'00")



While the title pays homage to Sun Ra's *Heliocentric Worlds*, the music here relates more closely to the utopian "City of the Sun" imagined and described by Tommaso Campanella at the beginning of the 17th century. This city is constructed like a solar system of concentric circles, which are reflected in the concentric circular orbits around the spatialisation system taken by three instrumental duos, while a central quartet remains at the centre and illuminates the structural turning-points of the duos. Each duo plays a fragmented version of a separately-performable piece, all three duos possessing many kinds of readily-audible structural correspondence as well as divergences into their own "worlds":

(i) *Adocentyn* for bass flute and bass recorder, whose title is the name of a mythical city in a mediaeval Arabic manual of magic known as *Picatrix*, which provided Campanella with his model for the "Città del sole".

(ii) *Hypnerotomachia* for two clarinets in A refers to the illustrated book *Hypnerotomachia Poliphili* by Francesco Colonna, where the lovestruck aesthete Poliphilus dreams of a land full of fanciful and symbolic architecture, which he describes in obsessive detail and through which he searches for his lover, finally being united with her just as the entire dream evaporates.

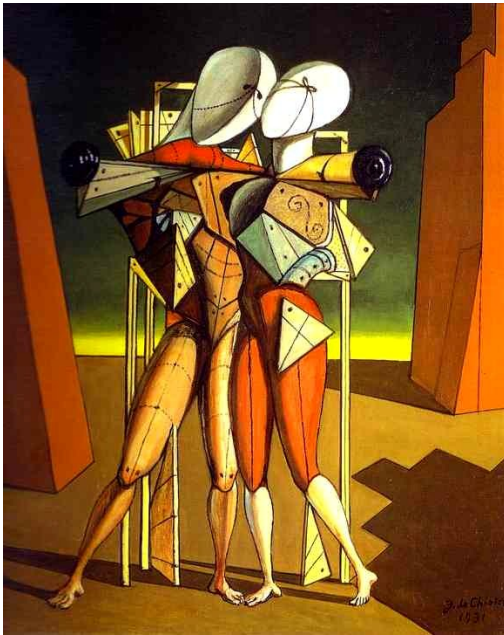
(iii) *Aurora* for quartertone flugelhorn and alto trombone takes its title from another utopian vision, in this case a text by the German mystic Jakob Böhme, and in particular its theme of cosmological evolution from "innocence" through a differentiated and conflicted state into a higher state of unity.

All three duos, in different and evolving ways, involve a contemplation of the idea of "unity" or "unison", which actually embodies a recurring feature in *CONSTRUCTION* - the expression of diverse interpretations of what it means for two or more performers (and/or musical materials) to be "doing the same thing", relative to one another but also often in terms of being radically different from something else. *Hypnerotomachia* begins in unison, with the two instruments subsequently constituting a single musical entity of increasing complexity; *Aurora* begins with the exposition of a

natural harmonic series whose compression and distortion passes through a sequence of phases before *ending* in unison; and in *Adocentyn* the two voices are constantly exchanging positions in a series of structural dyads which contract from octave to unison and then expand again to a major seventh.

Each of the duos plays continuously through one of the five three-minute sections of *heliocentric - Adocentyn* in the first, *Aurora* in the third and *Hypnerotomachia* in the last, these being accompanied by the complete quartet of percussion (two kalimbas with different but unspecified tunings), harp, electric guitar and cello, with all three of the string instruments being “prepared” at different times to produce more complex and inharmonic plucked sounds. The second and fourth sections present a sparser collage of duo fragments, placed in the context of harp chords against a long glissando on the cello (improvisationally varied in its spectral content) in the second, and kalimba chords against a sustained B natural (alternating between five different timbres) on the electric guitar in the fourth.

### 7: *Omaggio a Chirico* (40'35")



After another silence we hear the sound of children in a playground, forming the first in a dream-like or “surrealistic” sequence of sound-scenes, mostly based on “concrete” sounds, which forms a context for equally disjointed improvisations by the three singers, four strings and live electronics. Their “score” consists of the following text (the texts in *italics* are taken from Italo Calvino’s novel *Invisible Cities*):

*Elsewhere is a negative mirror. The traveller recognises the little that is his, discovering the much he has not had and will never have.*

... imagine that the cityscape paintings of Giorgio de Chirico depicted different views of a single city...  
 ... imagine a music to accompany this place as actual sounds accompany actual places,  
 such sounds as could not be heard in actual places...  
 ... sounds with a particular kind of presence, with a particular kind of absence...  
 ... which attracts the attention and then changes or turns a corner and disappears  
 as soon as the attention falls upon it...

... imagine a stillness pregnant with sound, or a sound infused with silence...

... objects, perspectives, causalities become unfamiliar...

... or imagine that you dreamed such places and imagine a music to invoke memories of them...

*Perhaps all that is left of the world is a wasteland covered with rubbish heaps, and the hanging garden of the Great Khan’s palace. It is our eyelids that separate them, but we cannot know which is inside and which outside.*

... if voices are heard they cannot be understood, being perhaps only shadows of voices...

...

... if the music begins to cohere, be silent...

... or imagine being alone and that the sounds you hear are those of a surreal environment  
 to which the music you make is a response...

... imagine sounds as connections between silences...

*“Sire, now I have told you about all the cities I know.”*

*"There is still one of which you never speak."*

*Marco Polo bowed his head.*

*"Venice", the Khan said.*

*Marco smiled. "What else do you believe I have been talking to you about?"*

*The emperor did not turn a hair. "And yet I have never heard you mention that name."*

*And Polo said: "Every time I describe a city I am saying something about Venice."*

*"When I ask you about other cities, I want to hear about them."*

*And about Venice, when I ask you about Venice."*

*"To distinguish the other cities' qualities, I must speak of a first city that remains implicit."*

*For me it is Venice."*

*"You should then begin each tale of your travels from the departure, describing Venice as it is, all of it, not omitting anything you remember of it."*

*The lake's surface was barely wrinkled; the copper reflection of the ancient palace of the Sung was shattered into sparkling glints like floating leaves.*

*"Memory's images, once they are fixed in words, are erased," Polo said. "Perhaps I am afraid of losing Venice all at once, if I speak of it. Or perhaps, speaking of other cities, I have already lost it, little by little."*

### **8: Andromakhe (46'54")**

Following *Hekabe-a* and *Kassandra*, this part involves yet another different ensemble. Three bass clarinets play most of the time either in unison or octaves, but these intervals are distorted by the second bass clarinet being tuned an eighth-tone flat and the third a quartertone flat. The "chorusing" effect this produces can already be heard clearly in the repeated trills which introduce *Andromakhe*. The text extracts from her scene three "strophes" which focus respectively on death as a state beyond suffering, then (after the harp's entry) on Andromakhe's loyalty to her dead husband Hektor and its implications for her forced marriage to a Greek, and finally (after a rising crescendo on the instruments at the beginning of which the cello makes its first entry) on a lament for her young son Astyanax whom she has just heard is to be taken from her by the Greeks and thrown to his death from the ramparts of Troy. The first two (which utilise the pitch-accents but not the agogics of the text) pair the voice, first in (approximate) parallel octaves and then in unison, together with the bassoon, whose sound is modulated using alternative fingerings and multiphonics to "colour" the different vowels of the vocal part in different shades. In the concluding lament, voice, bassoon and cello follow swooping and twisting lines each in a different register. At the end the cello is left alone, interrupting a sustained sound with increasingly widely-spaced multiple stops which form a transition to the beginning of *wound II*.

### **9: wound II (51'04")**

Here the relationship of the music to Francis Bacon's paintings is most clear, since the three accompanying instruments form what Bacon described as an "armature", a simple curvilinear framework which creates a spatial context for the disturbing and violent central event, or the aftermath of an event. The solo violin alternates throughout between three kinds of musical material which transform and develop independently, each alternation setting off a more or less complex sustained sound on Eb clarinet, english horn or cello so that each of the three materials is always shadowed by the same member of the trio.

### **10: news from nowhere (56'38")**

*News from Nowhere* is the title of a post-technological "utopian romance" written around 1890 by the artist, designer and socialist William Morris. Its protagonist finds himself waking up in early 21st century London, which seems like a kind of neo-mediaeval world, although private property and government have been abolished and the inhabitants are almost without exception happy, healthy and long-lived (thus having as little in common with real early 21st century London as does the London of 1890). This music attempts to reflect Morris' naïve fantasy of a non-futuristic future by taking the ancient concept of an "ornamented melody" in diverse new directions. The main material consists of a single melodic line, systematically composed in pitch- and duration-structure, which is ornamented (or not) in more or less specific ways by four wind soloists who are asked to change instruments as often as possible, while the rest of the ensemble plays slow "drones" (sustained pitches with freely varied timbre and intonation, mostly with a free choice of octave register) and an unspecified percussion instrument - a single instrument "able to produce at least 4 distinct timbres, in rapid succession where necessary (examples: Udu, djembé, bodhran, darabukka, washboard...)" - contributes rhythmical articulation. The second half of *news from nowhere* develops an increasing tendency towards freer forms of improvisation around the central melody (although at all times it's being clearly articulated by at least one of the wind instruments), and a crescendo at the end leads to the explosion of the following part.



**11: storming** (64'19")



This part involves all the instruments of the ensemble in nine bursts of sound, alternating with a sequence of nine 8-channel electronic sound-events (these eighteen events plus two silences reproduce the proportional structure of the entire *CONSTRUCTION* at a scale of 1:40). However there aren't fifteen instrumental parts but five "tracks" which eventually reduce in number to one, each track consisting of a looped series of specified pitches interspersed with unspecified ones, the specified pitches in the loops also decreasing in number to a single A in the last burst. The score states: "Each performer plays an independent sequence of mostly separate sounds, mostly short in duration, at a rate which enables each sound potentially to be heard while at the same time the overall density of sounds should be mostly high, sounding as responses to (not imitations of) the dense and jagged electronic part. The rate at which each player produces sounds will depend

on the number of performers taking part, although each player may also vary his/her rate freely, as a rule between one sound every two seconds and six sounds per second. These durations may be extended somewhat as the music progresses and the amount of defined pitch-material decreases."

**12: Helene** (67'16")

Helen's scene in Euripides consists largely of self-exculpatory sophistry as she attempts to deflect from herself the blame for the Trojan catastrophe. The perfunctory nature of her arguments indicate that she is probably relying on her proverbially blinding beauty to persuade Menelaus to spare her life, which, as the original audience knew, was indeed what happened. The text here set to music consists only of fragments of a few words each, and the music itself is similarly fragmented, as if inscribed on isolated scraps of papyrus, empty of dynamic and timbral variation, and using only three instruments (tenor recorder, harp and marimba) instead of the six present in all the other *Trojan Women* sections.

**13: wound III** (72'51")

In *wound III* the "armature" is a rhythmic grid shared by violin and percussion and intermittently by the other instruments - oboe, contrabass clarinet, electric lap steel guitar and cello. The structure of the quartet is a "cut up" version of the violin part in *wound II* with each instrument substituting for one of the violin strings in the previous *wound* section, although with a general tendency to evolve from longer passages on single instruments interrupted by *tutti* events, towards mostly *tutti* behaviour (while the violin part in *wound II* has done the opposite, beginning with all four strings in play and evolving towards concentrating on each one in turn). Each instrument is furthermore associated with one of the four groups of percussion instruments (castanets, Udu drums, bongos and congas) and is only heard in combination with it, so that the more instruments are playing the more diverse the percussion instrumentation becomes, and vice versa.

**14: island** (77'50")

This part is named after Aldous Huxley's novel, which he regarded as an antithesis to the dystopian vision embodied in his *Brave New World*. This book takes place on a fictional island in the Indian Ocean, where a free and equal society is about to be torn apart by oil prospectors. In the music, an instrumental octet plays music which is notated in various ways some relatively strict and others more flexible, while two soloists (saxophone and electronic keyboard, in this performance) improvise more or less freely. Eight different schemes for approaching this idea occur in the music. Here we return again to the idea of improvisations (by the soloists) influenced but not prescribed in any way by precomposed sound structures (from the ensemble). The two solo parts, which can be taken by almost any voices and/or instruments (the only stipulation being that one of them needs to be able to play sustained pitches) contain little more than indications of when to play and when not, sometimes in response to specific signals from the conductor whose part is also partly improvisational. Thus the music attempts to enact the harmonious functioning of a collective, combining spontaneous and planned activity in ways that embody a diversity of musical divisions of labour.

**15: *Simorgh* (89'14")**



*Simorgh* takes its title from Farid ud-Din Attar's mystical Sufi poem *Conference of the Birds*, written around 1177, in which a large assembly of birds undertake a quest to find the mysterious bird "Simorgh"; the quest is completed by only thirty of the birds, who find only reflections of themselves in a lake ("si"=thirty, "morgh"=birds) and thus realise that the object of their quest was their own collective transcendence. The music doesn't recount this process but rather attempts metaphorically to embody its final state, in which multiple sound-sources form different facets of a single "instrument" which occupies the entire space, particularly in the rising and accelerating trills of the last of its five structural phases.

*Simorgh* is a fixed-media piece in eight channels, which, like *strange lines and distances*, was composed using the *Kyma* software-hardware system, this time applied to recordings made with a number of different birdcall-whistles, recorder mouthpieces and small percussion instruments. It also contains some sound materials which have already appeared in *Omaggio a Chirico* and *storming*.

**16: *wound IV* (100'08")**

*Wound IV* adds the three vocalists to the ensemble of its predecessor in the *wound* cycle, who sing (mostly in unison) a fragment from a chorus in the *Trojan Women* addressed to Zeus: "we ask and ask, Lord, whether you care about these things as you sit upon your heavenly throne while our city is consumed by flames and destroyed". The cello ostinato from *wound I* returns here, together with the oboe and chorus using the same material in intervallic diminution, alternating with a trio of Eb clarinet, lap steel guitar and percussion, while the violin plays almost throughout, often in a high and tenuous register. Finally the music breaks into a sequence of brief fragments whose continuation forms the beginning of the following section.

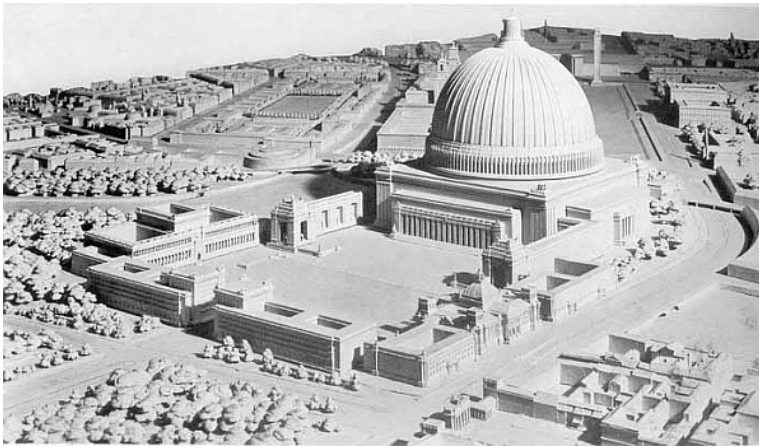
**17: *Hekabe-beta* (103'51")**

This section is the closest *CONSTRUCTION* comes to opera: the role of Hekabe is again taken by the contralto while the other two vocalists form the chorus which echoes her anguish and desperation in the last scene of the *Trojan Women*. The often rapid and overlapping antiphony between Hekabe and the chorus is reflected in a music of constantly-changing texture for piccolo, bassoon, piccolo trumpet, trombone and harp, while the violin, continuing from *wound IV*, traces a long descending line towards the open G string which forms the basis for *wound V* and continuing the series of greatly-extended glissandi which previously ascended in *heliocentric* (in the cello) and the end of *Simorgh*. Towards the end, contrabass clarinet and electronics enter imperceptibly with the low Eb which sounds throughout *wound V* and the first half of *Germania*.

**18: *wound V* (107'30")**

While *wound V* is played by the solo violin, now mostly in its lowest register, together with lap-steel guitar (now played with an EBow) and percussion, the vocalists and the rest of the ensemble begin the following part, *Germania*. *Wound V* is the shortest section of *CONSTRUCTION*, lasting around one minute and taking the violin's repeated upward glissandi from the low G as a starting point for increasingly complex iterations by all three instruments.

## 19: *Germania* (108'45")



*Germania* is named after the new capital of Greater Germany imagined by Albert Speer and Adolf Hitler growing out of the ruins of Berlin. The text of this part consists of a line from Hugo von Hofmannsthal's libretto for the opera *Ariadne auf Naxos* by Richard Strauss. Translated into English it says simply: "There is a kingdom where everything is pure. It has also a name: the kingdom of the dead." Which is finally a kind of conclusion to the "utopian" strand in *CONSTRUCTION*: one thing that's always missing from those texts, from Plato through Thomas More's original *Utopia* through Bacon's *New Atlantis* and the rest, is any kind of

account of how the utopia came to exist. It's always a traveller in time or space who arrives there - everything is already functioning perfectly, and it doesn't take much contemplation of this fact to realise that these perfect societies could only come about by first *destroying* the preexistent civilisation, erasing it from the face of the earth so as to be able to make such a fresh start. It would in a real sense be a "kingdom of the dead", as Hitler himself expressed when he remarked that the Allied bombing of Berlin was doing him a favour by sweeping away the accumulated mess of centuries and making space for his perfect city to be built.

When the music of *CONSTRUCTION* reaches this point, it congeals into a series of static sounds, firstly a natural harmonic spectrum based on the low Eb fundamental (a sort of cryptic quotation from the prelude to Wagner's *Rheingold*) followed by a sequence of chromatically descending augmented triads, each of which is doubled over several octaves but always with three notes (one each of the three pitch-classes in the triad) shifted by a quartertone. The final chord undergoes a long crescendo before being cut off to mark the beginning of *ON*.

## 20: *ON* (111'42")

How is the whole piece to be brought to a conclusion? Here is where the memory of Cardew's *Great Learning* played its most important role. On the day in 2005 when the entire shape of *CONSTRUCTION* first occurred to me, an important feature was the idea that it should end with around twenty minutes of free improvisation by the entire ensemble. In other words, the way out of all the confrontations which have articulated the previous 100 minutes is to be found by the entire performing ensemble as a collective, and found anew in each performance, each time evolving in a different way from the previous music and - I dare to hope - discovering a new music which couldn't have been brought into being any other way, certainly not through the imagination of a single person.

The "score" consists only of a few suggestions and a scheme for the conductor to follow:

*ON is intended to function principally as the twentieth and final section of CONSTRUCTION, in which the ensemble collectively seeks a conclusion to the preceding 100 minutes of mostly precisely-precomposed music, a "way out" of the contradictions and confrontation of the previous nineteen sections.*

*It is thus an extended and unrestricted improvisation for the entire ensemble, given its unforeseeable musical identity by the experience of the preceding music and facilitated by a structural framework allowing for (but not prescribing) the free incorporation of recapitulatory material from earlier sections as well as providing a guide to the passage of time which might assist performers in pacing and structuring their contributions. The responsibility for deciding on the appropriateness of any contribution lies completely with the individual players, though it might be considered important to be constantly aware of whether and to what extent one's contribution can be affected by others (potentially or actually), and whether and to what extent one's contribution can affect others, particularly in the context of a contribution with a tendency to dominate, or on the other hand one with a tendency to disappear into an undifferentiated background. Each contribution is an act of "orchestration" as much as anything else.*

*The approximate timings of the twenty conducted cues are shown in the table below, reproducing the formal proportions of the entire CONSTRUCTION at a rate of about 10 seconds for each minute, though this is intended as a rough guide rather than a prescription, and the conductor may vary it spontaneously in response to musical events. On each cue the conductor should gradually bring his hands inwards from widely-spread to together over the course of between 5 and 30 seconds - the conductor may choose and vary the duration as he/she feels appropriate, though obviously some sections are extremely short and could be either entirely occupied by a "slower" cue or concluded by a very "quick" one. The conductor should also be able to make clear which cue is being given for any performers who have been following their own direction independently of the cued sections. Performers may also use a cue simply to coordinate beginnings or endings of or changes within their activity. The table also shows which of the preceding nineteen sections might be used by any player(s) as a starting-point for their improvisation, or a contrast to it or any other kind of relationship the player(s) might find appropriate. Obviously it will usually be found more practical to use materials in *ON* which one has learned and performed oneself in the preceding music, although this is not mandatory.*

*It is also by no means mandatory, when using previously-played material, to use the same instrument it was originally scored for. The eventual network of sonic-structural relationships in **ON** will typically embrace responses in terms of both improvisational and precomposed material to both improvisational and precomposed music played by both oneself and by others.*

*The conductor may also take part in the improvisations so long as this does not conflict with the cues, and in particular, after the final cue when no more conducting will take place, it would be appropriate if practical for the conductor to join the ensemble both sonically and physically.*

<u>section</u>	<u>start time</u>	<u>duration</u>	<u>material source</u>
1	0'00"	20"	<i>strange lines and distances</i>
2	0'20"	1'30"	<i>Politeia</i>
3	1'50"	40"	<i>Hekabe-alpha</i>
4	2'30"	20"	<i>wound 1</i>
5	2'50"	40"	<i>Kassandra</i>
6	3'30"	2'30"	<i>heliocentric</i>
7	6'00"	1'00"	<i>Omaggio a Chirico</i>
8	7'00"	40"	<i>Andromakhe</i>
9	7'40"	40"	<i>wound 2</i>
10	8'20"	1'10"	<i>news from nowhere</i>
11	9'30"	30"	<i>storming</i>
12	10'00"	40"	<i>Helene</i>
13	10'40"	50"	<i>wound 3</i>
14	11'30"	1'50"	<i>Island</i>
15	13'20"	1'50"	<i>Simorgh</i>
16	15'10"	30"	<i>wound 4</i>
17	15'40"	40"	<i>Hekabe-beta</i>
18	16'20"	10"	<i>wound 5</i>
19	16'30"	30"	<i>Germania</i>
20	17'00"	3'00"	.....
end	20'00"		

Apart from bringing *CONSTRUCTION* to a collective conclusion, this performance also incorporates the experience of over twenty years of collaboration between myself and the Elision ensemble. Particularly in the six years during which *CONSTRUCTION* was being composed, we set ourselves the task of evolving a shared improvisational vocabulary, including the spatialisation techniques, in the process of moving towards this project. Although my feeling is that finishing the score and giving the first performance have the nature more of a beginning than an ending. Particularly this last part seems to open perspectives for the future development of thinking and practice both in musical terms and beyond.