Cloud-Polyphonies

II - Clouds

for six percussionists

James Wood

to Michael Rosen

Cloud-Polyphonies

2010-11

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LIST OF INSTRUMENTS

Percussion 1

Glockenspiel[1]
if possible with resonators and pedal

Tubular bells[2]
if possible 2” bells suspended freely on a gong-frame, not mounted in a bell-frame - no pedal needed

2 suspended cymbals
1) bright, thin splash - not too small - c.15”/28cm - the highest of the turkish cymbals
2) crash, medium - c.16”/41cm

5 Cheng[3]
a combination of chinese bell-cymbals (cheng) and chinese opera gongs (25 - 40cm) (see page v)

Paiste Roto-Son (or other spinning bell)

Flexatone

2 Bows

Percussion 2

Glockenspiel[1]

Tubular bells[2]
if possible 2” bells suspended freely on a gong-frame, not mounted in a bell-frame - no pedal needed

4 Cheng[3]
a combination of chinese bell-cymbals (cheng) and chinese opera gongs (25 - 40cm) (see page v)

2 suspended cymbals
1) crash - medium - c.16”/41cm
2) crash - large - c.18”/46cm

7 Thai gongs[4]

1 tam-tam (preferably chinese) (also played by P-3 in bar 234)
#1 medium (c.80cm)

Flexatone

2 Bows

Percussion 3

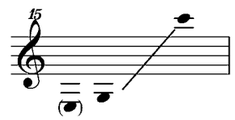
Vibraphone

2 suspended cymbals
1) thin splash, but not too small - c.16”/41cm
2) crash - medium - deeper than P-5’s #2

Flexatone

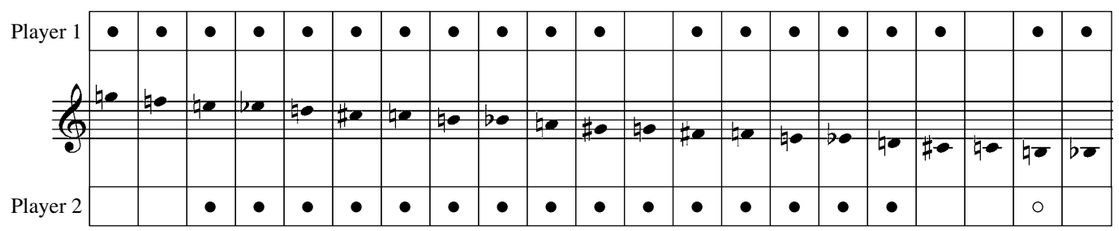
2 Bows

1) Glockenspiels range:



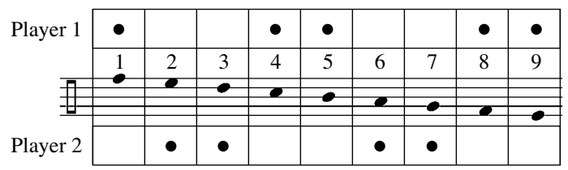
The low E♮ (in both glockenspiel parts) is optional - an ossia is given

2) Allocation of tubular bells

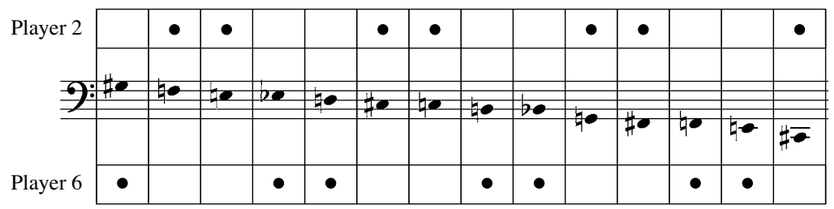


Player 2’s low B♮ is optional, and can be played by Player 1 if necessary (see b.153)
The high G bell can be replaced by another kind of bell if necessary

3) Allocation of cheng (see p. v)



4) Allocation of Thai gongs



Percussion 4

Vibraphone

2 suspended cymbals
1) large - dark - c.18-20”/46-50cm - the deepest of the turkish cymbals
2) low chinese cymbal

1 rin[5] (with rubbing stick) - or cowbell (suspended vertically - *tremolo* with very soft mallets)

Flexatone

2 Bows

Percussion 5

Piano (Grand - preferably c.186 cm)

5 sets of woven nylon cords for bowing piano (plus cello rosin)[9] (see page 4)

Removable weight for sustain pedal

11 cowbells (bowed - see setup)[6]

3 suspended cymbals
placed to the right of the keyboard:
1) thin splash (not too small) - c.16”/41cm - slightly deeper than P-1’s #1
placed to the left of the keyboard:
2) thin splash - medium - slightly lower than #1 and higher than P-3’s #2
3) medium-high chinese cymbal

Wind gong (or very large chinese cymbal)

2 Bows (for cowbells)

Percussion 6

2 chromatic octaves crotales[7]

10 bottles[8]

small bunch of pellet bells (sleigh-bells) - *not* on a stick

1 medium chinese cymbal - slighly deeper than Player 5’s medium chinese cymbal (Zildjian Constantinople 17” or 18”)

7 Thai gongs[4]

2 tam-tams (preferably chinese)
#2 large (c.90cm)
#3 very large (c.100cm)

3 rin[5] (with rubbing stick)

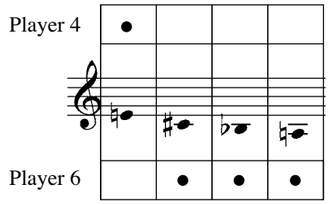
Flexatone

Bell-tree

Bow (for crotales)

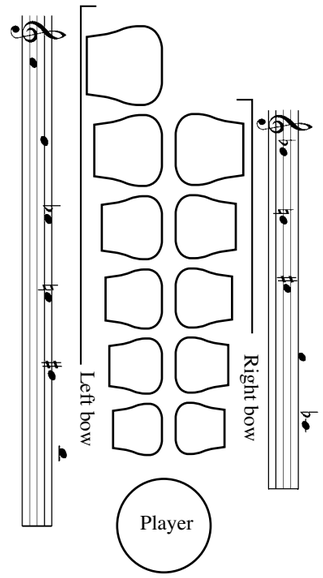
Also bows piano and shares P-5’s cymbals #2 and #3

5) Allocation of rin

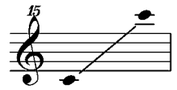


6) Bowing the cowbells

The cowbells should be set up as shown opposite, so that the bells on the left of the player can be bowed alternately with those on the right, thus facilitating *legato* playing:

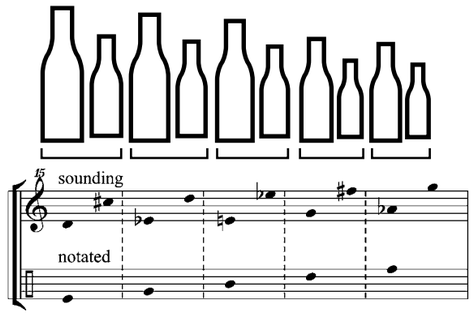


7) Crotales range:



8) Bottles set-up:

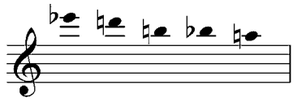
A total of 10 bottles are needed. 5 larger bottles (eg. Il spirits bottle) for the 5 lower pitches, and 5 medium bottles (eg. 75cl wine bottle or 50cl beer bottle) for the 5 higher pitches. The bottles can be tuned *down* with water (therefore screw-top bottles are preferable); however they sound better with as little water as possible, therefore a variety of different sizes of bottles will be needed to get as close to the desired pitch as possible, thus minimising the amount of water needed. The bottles should be laid down on a foam rubber base (small hollows can be made in the foam rubber to ensure that the bottles remain in place and don’t roll about) and played with hard rubber or plastic glockenspiel mallets. When the bottles are filled (or partially filled) with water they will change pitch as they are laid down into their horizontal position - therefore, when tuning, take care to place them horizontal before checking their pitch. The bottles are always played in pairs (each pair consists of 2 bottles pitched a major 7th apart); for ease of notation each pair is notated with a single ‘pitch’ on the notation stave - nevertheless 4 mallets should always be used when playing the bottles.



9) Technique for bowing piano

For each of the 5 strings to be bowed, 2 or 3 strands of woven nylon cord (approx. 1.5 mm thick, and 8 - 10m long) should be threaded through the piano strings, as shown opposite.

The cords (which should be rosined with cello rosin) are pulled alternately by Players 5 and 6 from each side of the piano.

The strings to be threaded are as follows: 

Immediately before each performance the cords should be set up at their starting positions as follows:

E♭ is played first by P-5, so first needs to be pulled through completely to P-6's side.
D♮ is played first by P-6, so first needs to be pulled through completely to P-5's side.
B♭ is played first by P-5, so first needs to be pulled through completely to P-6's side.
B♮ is played first by P-6, so first needs to be pulled through completely to P-5's side.
A♮ is played first by P-5, so first needs to be pulled through completely to P-6's side.

Apart from the single instance in bars 7 and 8 where P-5 pulls D♮ followed immediately by B♮, each set of cords is pulled alternately by P-5 and P-6 throughout the piece. For rehearsal purposes, it is suggested that both players make a note of exactly what the state of the cords should be for each bar of the piece.

The complete bowing-sequence (and associated movements of the bowing cords) from the beginning to the end of the piece can be seen in the following diagram:

	from beginning													b.80	
note:	E♭	D♮	B♭	B♮	A	B♭	D	B♮	E♭	D	B♭	B♮	A	E♭	D
cord direction:	↑	↓	↑	↓	↑	↓	↑	↑	↓	↑	↓	↑	↓	↑	↓
Player:	5	6	5	6	5	6	5	5	6	5	6	5	6	5	6

The bowing cords are not required after bar 82 - if possible, during performance, the cords should be pulled right through (and out) after the last stroke of each cord, so that the piano sound for the rest of the piece is not impaired by the presence of the cords lying in position.

Notes for performance

Accidentals

Unlike in *Cloud-Polyphonies I*, accidentals appear before every note (except in the case of 'unpitched' instruments). This is due to the large amount of complex two-voice polyphony (espcially in Players 1 - 4) where cautionary accidentals help to clarify which notes are played and which are tied.

Dynamics

...mf a dynamic marked thus indicates the dynamic reached as part of (or at the end of) a current (or preceding) *crescendo* or *diminuendo*. It is not a sudden change of dynamic.

Mallets

Players 1 and 2 need soft mallets which work both on the tubular bells and on the lower end of the glockenspiels.
They also need medium-hard rubber mallets (eg. Musser M4), as well as normal hard mallets for the glockenspiels,
and bell mallets with one hard side (raw-hide) and one side slightly softer (leather or hard felt).

Players 3 and 4 need a normal range of vibraphone mallets - when medium-hard mallets are notated it is suggested to use Balter 22 (green) or equivalent.

When the glockenspiels and vibraphones are playing together as a quartet it is intended that the combined sonority of vibraphone and glockenspiel be as consistent and continuous as possible, so that the two instruments sound like a single, extended metallophone. If the glockenspiels are played with mallets which are too hard and the vibraphones with mallets which are two soft, the two instruments will be heard as distinctly separate instruments - this should be avoided. The same is true of the bells and glockenspiels - in the sections where bell sonorities (soft mallets) extend up into the glockenspiel register, care should be taken to choose mallets where the sound is as consistent and continuous as possible between the two instruments.

Bowing of cymbals

Occasionally I have notated "pure", "complex" or "high harmonic" beside certain bowed cymbal notes. My experience with bowing cymbals has taught me that it is possible to predict and determine the kind of harmonic or harmonics from any given cymbal, given a good aquaintance with the cymbal in question. As a general rule, placing one finger of the left hand *lightly* nearer the rim of cymbal and then bowing in an upward direction (i.e. a "downbow starting at the heel of the bow) will produce a high harmonic, and doing the same with the finger of the left hand between the rim and the centre of the cymbal will produce a lower harmonic. The exact position of the left hand finger can make a very big difference - changing the position by just 1 cm can produce a very different harmonic. However, it must be noted that if one wants to produce two different harmonics in succession from the same cymbal, the cymbal should be *completely* damped before bowing for the second time (This is notated, for example, in bars 205-208). Complex harmonics (i.e. multiphonics) can generally be produced either by placing the left hand finger near the centre, or by using a combination of two or more fingers laid in different places on the cymbal - but this is more down to experimentation with each particular cymbal. The often-used technique which I find invariably achieves very poor results is that where enormous pressure is applied using all five fingers around the dome of the cymbal - this invariably results in the player exerting more and more pressure as his frustration increases! In fact, no pressure is needed at all - just a light placing of the finger on the surface, simply providing resistance to the upward stroke of the bow. Once the harmonic is 'singing' the cymbal can be left to vibrate on its own.

Cheng (for Percussion 1 and 2)

After some experimentation, the Cheng combination which I have found to be the most satisfactory, and that used by the Yale Percussion Group in their recording of *Cloud-Polyphonies* was as follows:

Cheng #1 - 6”/15 cm bell cymbal

Cheng #5 -
12”/30 cm Korean bell cymbal

Cheng #8 and #9 -
11”/28 cm and 14”/36 cm opera gong (descending)

Cheng #2 and #3 -
6”/15 cm and 7.5”/19 cm bell cymbals

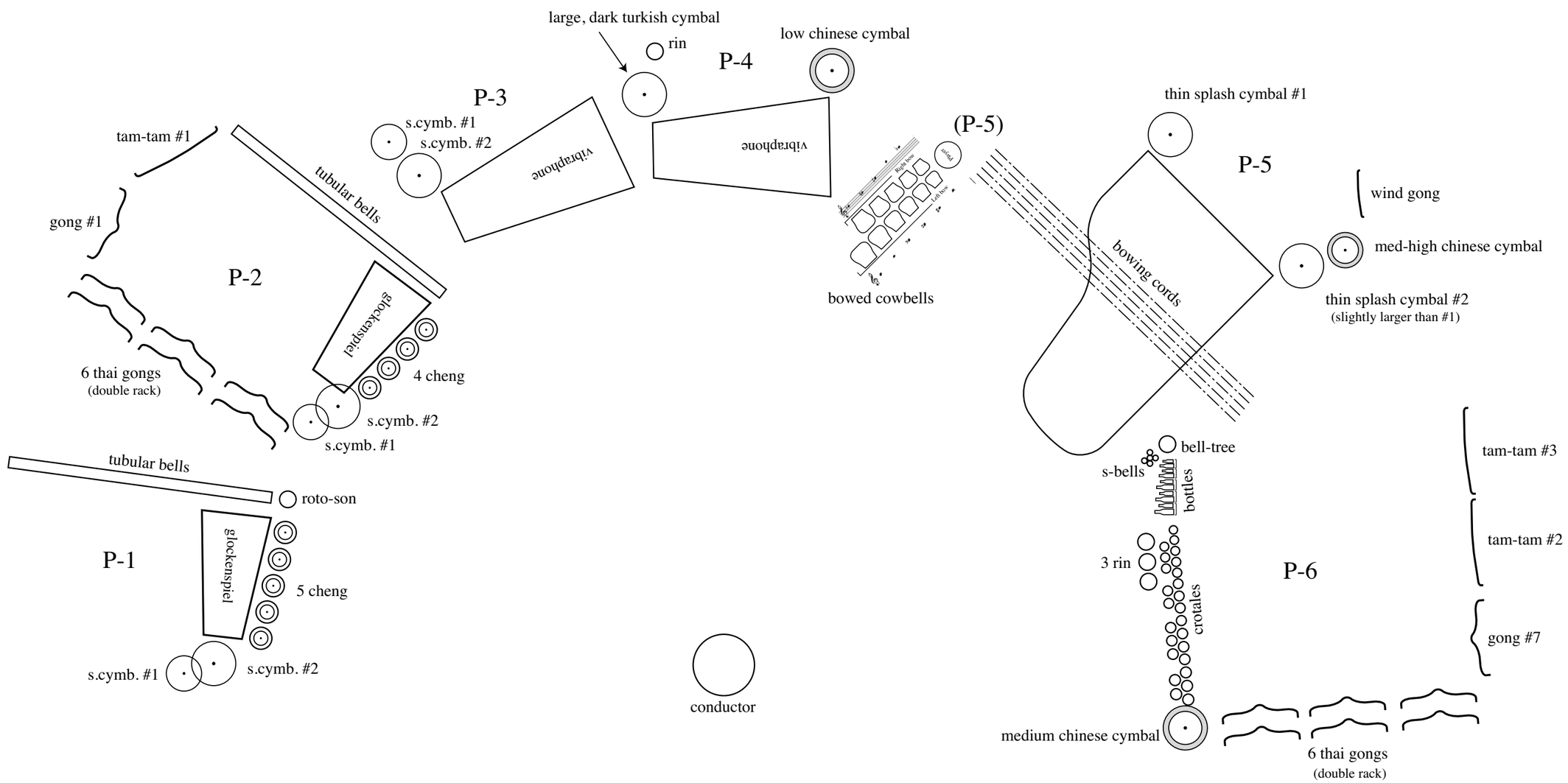
Cheng #6 and #7 -
12”/30 cm and 10”/25 cm opera gong (descending)
(here the 10” (#7) actually sounded lower than the 12” (#6)

A soundfile (mp3) of this complete combination of cheng can be downloaded from www.choroi.demon.co.uk/cloud-polyphonies.htm

Cheng #4 -
10”/25 cm opera gong (descending)

James Wood
June 2013

Complete set-up of Cloud-Polyphonies II



ENSEMBLE

It is strongly recommended to use a click-track for the performance of movement 1 (*Starlings*) and movement 3 (*Buffalo*), whilst movement 2 is better performed with a conductor (or as chamber music without a conductor). A Logic File click-track is available through James Wood Edition, although it is likely that each performing group will prefer to make their own click-track.

Cloud-Polyphonies
2010-2011
for percussion sextet

Like many composers before me, I have long held a fascination for the phenomenon of clouds. For Debussy they represented the perfect natural model for his "orchestration without feet" - a music which floats free from any discernible or definable bass-line; for Xenakis, Stochastic Clouds were a phenomenon where a myriad of random elements come together to form a tangible, controllable mass, whilst in Messiaen's *Transfiguration de notre Seigneur, Jésus Christ*, the mystical cloud which enveloped Christ on the mountain is depicted almost literally by clouds of string glissandi.

My interest recalls a little of all these representations, but specifically refers to the movements of large formations of organisms - whether animals, insects, birds, fish, water, steam or crowds of human beings - where, although the general direction of the mass is clear, the relationship in space between the individual elements within the mass are in a constant state of flux. Their freedom and individuality is nevertheless kept in check by a shared sense of purpose, as if some mystical spirit were controlling the behaviour of the individual elements, as a choreographer directs a group of dancers. Specific examples of this are shoals of fish, water particles subjected to the ebb and flow of tidal currents, flocks of migratory birds, herds of animals, clouds of water vapour, swarms of bees, and even crowds of Pilgrims at the Hajj.

When Mike Rosen first had the idea of inviting me to write a percussion sextet for a consortium of American Universities, my first thoughts were that a percussion sextet could be the perfect medium to explore this phenomenon in musical terms - and this led directly to *Cloud-Polyphonies*.

The 'Polyphonies' of the title refers directly to this phenomenon, and is realised in musical terms by a complex web of 'Points of Imitation', or distorted canons. The musical material for each percussionist consists of two distinct, polyphonic 'voices', making a total of twelve voices in all. The individual motifs which make up each voice are imitated in turn by each of the six percussionists, although both the motifs themselves and the rhythmic distance of each imitation are subject to continual transformation. Melodic fragments, varying in length between a single note and longer phrases of up to 13 notes, each with their own distinctive form and character, are sent across the six percussionists like waves - either from right to left or from left to right - sometimes very slowly, and sometimes very fast like ricochets.

Each of the three movements of *Cloud-Polyphonies* is scored for a completely different instrumentation and can be performed separately, or in any combination, as required. The first movement, *Starlings*, is written for six marimbas and woodblocks, the second, *Clouds*, for metal instruments and prepared piano, and the third, *Buffalo*, for drums, simantras and bull-roarers.

I: Starlings

The first movement of *Cloud-Polyphonies* concerns the extraordinary aerobatic displays of starlings, as they gather together before migration. At first just a few starlings gather on telegraph wires, nervously testing their aerobatic potential individually. As more and more starlings gather, these pre-migration test-flights become increasingly spectacular until finally several thousand birds form up together to perform an extended synchronised display. From this moment on, focus on any particular individual bird is lost, as one becomes mesmerized by the brilliantly synchronised aerobatics and shape-transformations of an enormous black cloud of several thousand starlings. Gradually, following some arcane signal, the cloud disappears and is gone for the winter.

II: Clouds

Just once in my life I have had the experience of going hot-air ballooning. It was a beautiful day in August, and for a couple of hours we glided silently over the Oxfordshire countryside. Never before have I been so conscious of the presence and activities of the clouds. As we drifted up to our cruising altitude, focus on these mystical, intangible and supernatural phenomena was intensified as we gradually became enveloped by an overwhelming sensation of deepest silence.

Our pilot explained how to 'read' the clouds - an essential skill for all hot-air balloonists. Active clouds (*cumulus*, or *cumulus congestus*) are those huge structures with sharply defined edges, which build from the powerful upward draught of a thermal within them - they are dangerous, and therefore avoided by balloonists. Passive clouds (*cirrus*) are generally at a much higher altitude, and have more of a wispy appearance - these are harmless, although should be watched, in case they develop into active clouds. In *Clouds*, passive clouds are represented by sounds produced by bowing, scraping or rubbing, and active clouds by sounds produced by striking. Between these two extremes come sounds sustained by tremolandi - these represent the clouds' transitional state, as they develop from passive into active.

III: Buffalo

The final movement of *Cloud-Polyphonies* invokes that quintessential American symbol, the North American Bison, or Buffalo. Here the continuously changing waves of sound which zigzag across the line of 66 drums recall the sound of herds of galloping buffalo - however the sound comes not from the animals, but from the earth itself - an ever-changing terrain of mud, stone, brush, pampas and water becomes the surface for a thousand pounding buffalo hooves, as the herd stampedes swiftly across the plains.

James Wood
March 2011

Durations:

I:Starlings	c.8 minutes
II:Clouds	c.14 minutes
III:Buffalo	c.13 minutes
Total:	c.35 minutes

Cloud-Polyphonies was commissioned by a consortium of American and Canadian Universities, Conservatories and individuals, headed by Michael Rosen (Oberlin Conservatory of Music), in cooperation with Slagwerk Den Haag, Holland.

The North American consortium comprised the following institutions and individuals:

Oberlin Conservatory of Music - Michael Rosen
University of Akron - Larry Snider
Baylor University - Todd Meehan
Eastman School of Music - Michael Burritt
University of Kentucky - James Campbell
University of Massachusetts, Amherst - Ayano Kataoka
Matthew McClung
McGill University - Aiyun Huang
University of Michigan Percussion Ensemble
Michigan State University - Gwendolyn Burgett Thrasher
New England Conservatory Percussion Ensemble - Frank Epstein
nief-norf Project - Andy Bliss, Kerry O'Brien, Erin Walker, Eric Willie, Mike Truesdell, Bill Sallak
Northern Illinois University Percussion Ensemble - Greg Beyer
University of North Carolina, Pembroke - Tracy Wiggins
Steven Schick - *in memory of Fred Cooper*
Yale University School of Music and Norfolk Chamber Music Festival - Robert Van Sice
Manhattan School of Music - Claire Heidrich