Dave Soldier, the Thai Elephant Orchestra, Richard Lair

Symphony #1

"The Ganesha"

- 1. The Birth of Ganesha in E major
- 2. Shiva Beheads Ganesha in C minor
 - 3. A Head is Found in Eb major
- 4. Ganesha Triumphant in Ab and Eb major

for percussion instruments with harmonica and Diddley Bo bass

opus 41 recorded the second week of March 11, 2001 at the Thai Elephant Conservation Center transcribed September, 2022 about 11 minutes duration Dave Soldier Publishing davesoldier.com

Symphony #1, "The Ganesha Symphony"

The Thai Elephant Orchestra, Dave Soldier, Richard Lair

Recorded at the Thai Elephant Conservation Center, March 11, 2001

Released on the Orchestra's second album, "Elephonic Rhapsodies", in 2005 Transcribed August-September, 2022

- 1. Birth of Ganesha (E major)
- **2. Shiva** (C harmonic minor)
- **3.** A head is found (Eb major)
- **4. Ganesha Triumphant** (Ab major and Eb major)

These are transcriptions I made from the stereo recording and are intended in part for humans to play music that was improvised by the members of the Thai Elephant Orchestra.

There were well over 20 instruments built or purchased fpr the orchestra, and only a subset are in the Ganesha. I built the renaats, selected the instruments and designed the structure of the symphony. Richard Lair and I cued the elephants and their mahouts to start and stop: otherwise, the notes and rhythms are entirely improvised on the spot by the elephants.

Instruments

soprano renaat

2 alto renaats

Metal bar renaat (renat thum) in Thai 7-equal scale (approximately C, D, Eb, F, G, A Bb, C)

4-bar wooden renaat with little discernable pitch

2 angalungs, one Ab and one Eb

harmonica in C harmonic minor

tubular chimes including Eb4, F4, G4, Bb4, C5, Db5, Eb5, F5, G5

large knobbed Thai gong

lumber gong

2 jazz-type cymbals

2 bass drums

Diddley Bo 3 string bass

Tuning

The TEO mostly performs in scales that emulate the pentatonic scales of the Lanna province of Thailand. The mahouts perform music with instruments tuned to that scale, including the placement of frets and holes on flutes, and most of the music the mahouts, local audience, and elephants hear use it: the most common fretted instrument at the center is the *seung*, which has its frets placed in a 7-equal tuning, when starting on C, is close to C D Eb F G A Bb C.

While the live music the elephants hear is mostly a "salaw saw seung" ensemble in the Thai 7-equal tuning (Rory Young and I recorded performances of the mahout's string band that are on my website), the commercially recorded music that mahouts play through speakers at the Center uses a Western 12-equal tuned minor pentatonic scale third, fourth, fifth, minor seventh and octave (in C: C, Eb, F, G, Bb, c), often with the minor third as a fundamental for pieces in a major pentatonic mode (Eb, F, G, Bb., C, eb): we use both in the Ganesha Symphony.

(Unfortunately, in my opinion, there is very no 7-equal popular music played on radio and TV in Northern Thailand, at least during my trips.)

In principle to help the metallophones ring, I tuned the instruments in just intonation. The ratios 1, 6/5, 4/3, 3/2, 9/5 (C, Eb, F, G, Bb) and for the soprano renaat, I added a minor sixth (8/5, Ab) and ninth (9/8, D): in practice, the tuning depends on the weather: the instruments were kept outdoors and exposed to monsoons.

In the 1st movement, the soprano and alto renaat are in an E pentatonic.

In the 3nd movement, we use a commercial equal tempered C harmonic minor harmonica together with the commercial renaat in the C 7-note equal system.

The Ganesha Triumphant movement uses two key centers, alternating between Ab and Eb.

Discussion of instruments

"Renaats" are traditional Thai marimba-like instruments that use bamboo bars, but here are mostly made of metal bars and are played with hard sticks held in the trunk.

The **soprano renaat** uses replaceable 9 hollow stainless steel tubes made to encase plumbing or electrical wires. It is played here by Phong, who is particularly outstanding at improvising melodies. Phong plays the instrument with a beater from the front, the conventional angle, so that the bars extend vertically from the player. This instrument is still used daily in shows at the Thai Elephant Conservation Center, where it is usually strummed from the side – it is up to the elephant!

In the 1st movement, 7 notes are used: C#5, E5, F#5, G#5, B5, C#6, D#6.

In the 3rd and 4th movement, the 9 notes used are Bb4, C5, Eb5, F5, G5, Ab, Bb5, C6, D6.

The sound of the soprano renaat can be emulated by vibraphone with sustain, and a glockenspiel would work.

The other renaats were played sometimes from the front and sometimes strummed from the side, and mostly played by Prajuap, Partidah and Lukaang.

The **first alto renaat** uses 5 stainless steel metal tubes that are suspended in a curved fashion. It has a sweet sound. Here it is played from the side, with the bars horizontal to the player, so that the elephant swings the beater up and down, as indicated in the score by violin upstroke (from low to high pitch) and downstrokes (from high to low pitch), as if the low notes were on the player's side, although in practice this is often reversed with the high notes closest to the elephant. The resulting chords are essentially rolled or arpeggiated, like a guitar strum. The notation is approximate, and the feel is more important that precision.

In the 1st movement, the first alto renaat is tuned B3, C#4, E4, F#4, G#4. In the 3rd and 4th movements, it is tuned Bb3, C4, Eb4, F4, G4.

The second alto renaat, used in the 1st movement, plays single notes in this piece: it is probably a version I made with three sided steel bars at right angles, with a bit more "klunk" and a cloudier sound than the first alto renaat.

In the 1st movement, it is tuned C#4, E4, F#4, G#4, B4.

Alto renaats might be emulated by a marimba or vibraphone.

On the 2nd movement we use a commercially bought **metal bar renaat** (I think a *renat thum* or a version of one), typically of 18 bamboo bars, that is most similar to a xylophone. This would be in a 7 note equal scale starting on C, close to C D Eb F G A Bb C. The renaat pitches used are Bb3, C4, Eb4, F4, G4, Bb4.

Also on the 2nd movement we use a **4 bar wooden renaat** with large wood slabs: these hardly make a discernable pitch, and could be emulated by woodblocks.

The **Diddley Bo bass** is a large box built as a log drum with three attached bass strings, always played by Chapati, who uses a switch to brush the open strings. I would use a variety of tunings. During recordings, I normally stay close to the bass to retune it as it slips from Chapati's forceful strikes.

In the 2nd movement I believe I returned the bass from C G c to C G d, and in the 4th movement from Eb g bb to Eb ab bb, where indicated.

There are two conventional Zildjian one sided-type **cymbals** played by a felt tip stick, played by the same player, (originally Lukob, who could also alternate with a bass drum: however, Lukob became too dangerous and did not record on the symphony.) I consider them something like "crash" and "splash" cymbals, but defer to the player about which should be used, and it could be on a single cymbal that is played with a range of techniques.

Two mounted **bass drums** that sound similar played by a single elephant with a felt ended stick.

Angalungs (angklungs) are Thai instruments used in school ensembles originally from Java and Banten in Indonesia. In the angalung ensemble, each player plays one note of the scale, but each angalung is comprised of three bamboo tubes that play the pitch in three octaves. In Thailand, angalungs are played by shaking, but for the elephant orchestra, the elephant pulls a string with their trunk, and the instrument reverberates with its own intrinsic velocity while the volume decresendos. The score sometimes indicates the approximate a string pull with large notes and the automatic reverberations with small notes. I think this sound can best be made by an actual angalung, but a player could imitate it on a xylophone, perhaps with a stick with a superball end and in octaves. In this piece, we use an Ab and an Eb analgungs.

The **harmonica** is held and blown through the trunk and the chords are either "blow" or "draw" with different amounts of force. Notes are approximate, and some are above or below what I have notated, depending on how the elephant breathes. Here we use a C harmonic minor (with a B natural rather than a Bb) made and donated by Lee Oskar.

The **tubular chimes** are the same hollow stainless steel tubes used for renaats but suspended by ropes from their node, played by Jojo and Tau. The tuning is arbitrary, I cut a broad variety of tones and mixed them at will to provide a pleasant harmonic wind chime-like sound — I didn't take notes, and others may hear additional pitches. Some elephants push them with their trunks, so that they vibrate and hit each other, while others wrap a stick in their trunk and push them with the stick, producing a sharper attack. In the 4th movement, they use the trunk method. Orchestra bells ring with too much of a pure ringing sound, but could be muted.

In the 2nd movement, I think that they are close to G4, C5, Eb5, F5, G5. In the 3rd movement, they are close to F4, G4, Bb 4, Eb 5. In the 4th movement, Eb4, Bb4, C5, Db5.

There is a **medium gong** with a knob made for Buddhist or animist rituals of about 18 inch diameter with a well defined pitch (around Ab2) on the 1st and 4th movements. It is played with felt end bass drum sticks. I would prefer a gong with a pitch in the scale of the piece.

Mei Kot, the largest and oldest of the players, plays several instruments at her stand, including a suspended **thunder sheet**, which is simply an aluminum sheet folded over a rack, and two gongs. The **large gong** is a temple gong with a knob, about 3 feet in diameter, and when played quietly has a bit of pitch around F#2 to G#2. She also plays a still larger (about 4 foot) **lumber gong** made from an enormous circular saw that poachers abandoned during a chase in the forest, and workers at the TECC filed down the saw teeth. This produces a lot of shimmer, like a tam-tam, though can produce a pitch depending on how is it hit.

The notation of these performances is a balancing act. The elephants typically play in surprisingly steady time of duples and triplets, with a bit of swing. I think that they do what sounds and feels good to them. They enjoy some instruments more than others, especially renaats when they are turned and ring well. The tempos are surprisingly steady. To convey the feel, I write in straightforward rhythms that reflect the back and forth motions on the

percussion instruments. Human players should listen and can emulate the swing and drifts in tempo as they hear them.

Given the brushing motions on the Diddley Bo bass and side-played renaats, and other "noises", many parts can't be precisely notated, nor should they be: why convey that one note of a chord is quieter than others, when a salient feeling is spontaneity? The soprano renaat is the exception, as due to Phong's playing style, the notes are quite precise.

It is sometimes impossible to know for sure which instrument is playing a sound, especially when it is a "bonk" that could be made by several instruments, often if the aim for the sweet spot on a renaat was not perfect. I then make an educated guess — at the time we didn't have the ability to video most performances.

There are some wonderful orchestra performances videos, especially a film by Paul Spurrier, and some mysteries on how the sounds are made will be revealed if human performers watch them – and new mysteries will arise!

Overall, my advice is to perform the music with enthusiasm, energy and groove, as if it were rock n' roll or Thai folk pop, and I think that would be closest to the feeling I perceive that the elephants have when they improvise.

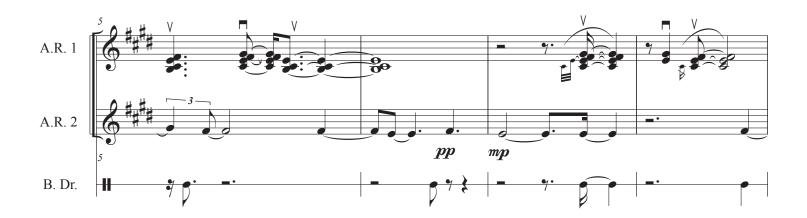
- Dave Soldier, Matera, Italy, September 11, 2022

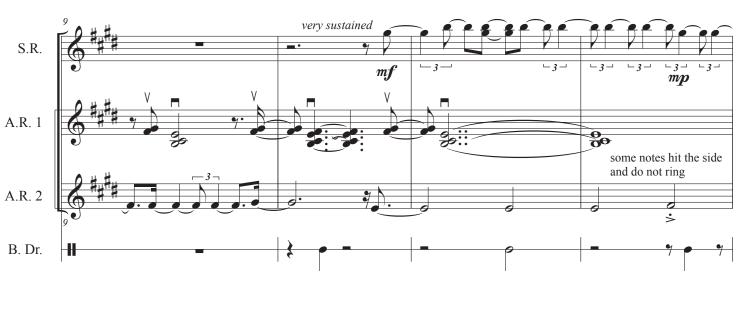
I. The Birth of Ganesha

Symphony #1

Dave Soldier / Richard Lair The Thai Elephant Orchestra



















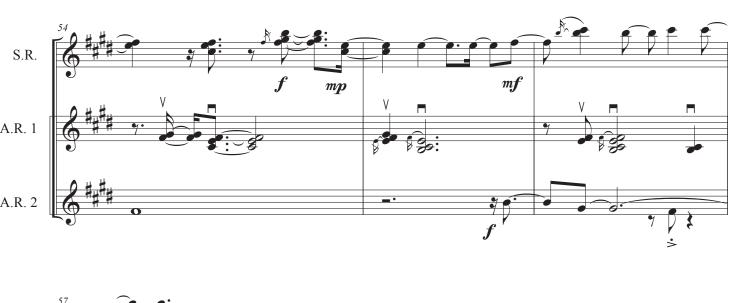
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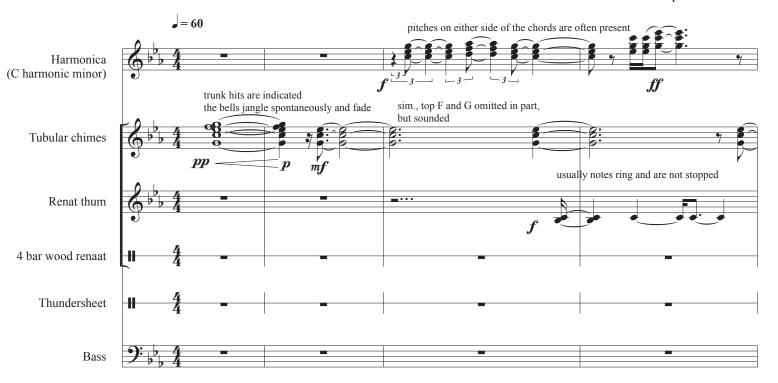




II. Shiva Beheads Ganesha

Symphony #1

Dave Soldier / Richard Lair The Thai Elephant Orchestra









III. A Head is Found

Symphony #1

Dave Soldier / Richard Lair the Thai Elephant Orchestra











L. G.

Bass



IV. Ganesha Triumphant

Symphony #1

Dave Soldier / Richard Lair the Thai Elephant Orchestra



