

# Rondo Symbiosis

## *The Rhythm of Life*

An Avant-garde piece of orchestral music serving as a metaphysical representation of the origin and evolution of life on the Planet Earth.

### **Geological Explanation**

#### **Introductory Note:**

As a general metaphor, this piece of music is a chronological representation of the origin and evolution of life on the Planet Earth over the enormity of Geological Time. The phrasing is not accurately timed to truly represent the length of each Geological Period and so it only serves as a metaphor with no real mathematical scale. However, it was intended that the motives and melodic phrases which occur later in the piece are significantly longer than those at the beginning of the piece, reflecting the explosion and rapid evolution of life in the Phanerozoic over a short period of time, as opposed to the stagnant diversity and evolution of life over the Four Billion years of the Pre-Cambrian.

The title 'Rondo Symbiosis' is a compound pun combining the musical form of 'rondo' (which ironically isn't the musical style of the piece at all) and the scientific term 'endosymbiosis', which describes a biological relationship that often occurs in nature, and which was also a very important specific event in the evolution of life in the Proterozoic Eon.

In a general form, this piece was written to serve as a broad metaphor for endosymbiosis, a process where two different species of life (bacteria) live together in a symbiotic relationship, feeding off each other for mutual benefit, allowing them both to survive and flourish in perfect harmony. The general musical form of the entire piece has a strong focus on polyphony (many intertwining melodies feeding off each other where no individual instrument has the main melodic line), which is mainly portrayed by the intertwining, call and response solo clarinet melodic lines, superimposed on a never ending ostinato termed 'The Rhythm of Life' which is constantly being played by the underlying accompanying clarinets throughout most of the piece.

This ostinato and melodic motive of 'The Rhythm of Life' is a relentless pulse developed in the middle of the piece, and was written as a completely separate adjunct to the chronological evolution events, serving as a mysterious metaphor describing the enigma that is life on earth, a powerful force that cannot be extinguished as it has the momentum of a freight train (which I attempted to represent within the melodic motive), and has survived all five of the major mass extinctions throughout time, reflected by the undying presence of 'The Rhythm of Life' ostinato occurring throughout most of the piece.

# Pre-Cambrian:

## Hadean (13.7 Ga – 3.8 Ga)

**Bar 1:** The universe is quiet, happily twinkling away in a state of peace and equilibrium which is represented by the tranquil and happy melody of the main lyrical theme of the piece, blissfully played by the solo clarinet.

**Bar 3:** An ascending glissando on the solo clarinet indicates a disruption of tranquility as things wind up and a supernova explodes represented by the descending glissando that immediately follows the trill.

**Bar 4:** A rapid, ascending, discordant ostinato played by the piano represents the shockwave of the supernova steadily growing in intensity, while the harmonic dissonance and intense rhythm represents the utter chaos in our solar system that the nova induces.

**Bar 6:** The ascending glissando played by all instruments represents the very rapid gravitational attraction of rock particles in the dust cloud of our primitive solar system, that quickly coalesce to form the primitive molten early earth.

**Bar 7:** The rumbling timpani role countered with rapid blips of noise from the rest of the ensemble represents the cooling of the Earth, while being intermittently bombarded with asteroids.

## Archean (3.8 Ga – 2.5 Ga)

**Bar 11:** The Creator issues forth a trumpeting call to The Planet Earth to form life immediately after it has cooled and stabilized just enough so as to be able to support it. This is played like a conch via a clarinet mouth piece. Mother Earth echo's this call (second clarinet) responding to the demand and so creates life (bacteria) which is represented by the response played on the bass clarinet, which is low, strange and haunting and paints a picture of the primordial soup from which life on Earth was born.

## Proterozoic (2500 Ma - 545 Ma)

**Bar 21:** ~ 2 Billion years of evolution from bacteria and stromatolites to primitive soft bodied organisms (due to the very important evolutionary step of endosymbiosis where prokaryotic cells combined to give birth to the more complex eukaryotic cells thus allowing the evolution of more complex organisms) is summarized in two bars of a noisy, rumbling, dissonant, ascending glissando played on the piano. This represents the ramp up in the strength and presence of life on earth, as well as an increase in biodiversity through strange experimentation as shown by the Ediacaran Fauna and the Burgess Shale.

## **The Rhythm of Life (*Timeless*)**

**Bar 24:** Just before we enter into the Phanerozoic (period of visible life), we leave the geological timescale to develop the mysterious theme entitled ‘The Rhythm of Life’. This haunting yet strangely melodious and lyrical melody played by the two solo clarinets is superimposed over a relentless heart beat like ostinato played by the accompanying clarinets, which forms a metaphysical representation of the illusive and enigmatic conundrum that is the existence of life on The Planet Earth. As per the title of the piece, the first clarinet line represents the initial prokaryotic life on the planet, which is then joined by the second clarinet line, and the two melodies intertwine with each other in perfect harmony (endosymbiosis) and give rise to a new complementary theme which represents the birth of eukaryotic life. True evolution of life can now take place.

## **Phanerozoic:**

### **Palaeozoic**

#### **Cambrian (*545 Ma – 490 Ma*)**

**Bar 32:** The inexplicable explosion of life at the beginning of the Phanerozoic Eon is represented by breaking out of the ‘Rhythm of Life’ theme into a strident trill on the clarinets, showing the glory and new power of life on earth, while the rhythm of life ostinato continues to play unabated beneath.

**Bar 33:** This is a segue bar joining the Cambrian and the Ordovician via a call and response pattern played between the piano and clarinets. The first half of the bar (piano call) represents the invertebrate life of the Cambrian, while the second half of the bar (clarinet’s response) represents the birth of the first vertebrate life in the Ordovician.

#### **Ordovician (*490 Ma – 434 Ma*)**

**Bar 34:** This bar is made up of a growing melodic line played by all instruments and represents the steady growth of life during the Ordovician.

## **# *First Mass Extinction (434 Ma)***

*Cymbal Crash Bar 35 (1<sup>st</sup> Half)*

## **Silurian (434 Ma – 410 Ma)**

**Bar 35:** This period is only represented by the first half of bar 35 where the flutter tongued duplet played by the clarinets represents the winged insects of the arthropod dominated Silurian period.

## **Devonian (410 Ma – 354 Ma)**

**Bar 35:** This period is only represented by the second half of bar 35, where the three punctuated staccato notes played by the solo clarinets represent the three dominant forms of life during the Devonian, which were fish, amphibians and the first land plants.

## ***# Second Mass Extinction (354 Ma)***

### *Cymbal Crash Bar 35 (2<sup>nd</sup> Half)*

**Bar 36:** This is a segue bar between the Devonian and the Carboniferous Periods where the huge mix of sound from the entire ensemble is stripped back to its barest and most fundamental form (after the enormous End Devonian Mass Extinction), which is represented purely by the ever relentless 'Rhythm of Life' ostinato played constantly by the accompanying clarinets. The other instruments then slowly join in with this ostinato to show life (which cannot be extinguished) slowly regaining strength and flourishing.

## **Carboniferous (354 Ma – 298 Ma)**

### **Mississippian (354 Ma – 325 Ma)**

**Bar 38:** The first cymbal crash in the duplet at the end of the bar.

### **Pennsylvanian (325 Ma – 298 Ma)**

**Bar 38:** The second cymbal crash in the duplet at the end of the bar.

## **Permian (298 Ma – 251 Ma)**

**Bar 39:** The noisy ascending ostinato developed at the start of the piece is repeated here to represent the aggregation of the continents to form Pangea, where similar to the musical metaphor representing the aggregation of Earth, the ascending glissando played by all instruments in Bar 40 represents the rapid agglutination of the continents to form the ancient supercontinent of Pangea.

**Bar 41:** A joyful and glorious Rachmaninov style chord progression is hammered out on the piano representing the explosion and huge diversity and dominance of terrigenous reptiles, ferns and conifers during the Permian Period.

**Bar 43:** The same dissonant ostinato from bar 39 is repeated, but this time it represents tension winding up towards the biggest mass extinction that ever struck the Planet Earth.

## ***# Third Mass Extinction (251 Ma)***

*Cymbal Crash Bar 44*

## **Mesozoic**

### **Triassic (251 Ma – 205 Ma)**

**Bar 44:** The strong, strident, joyful, main central musical theme is developed here to show the incredible strength and dominance of life over the entire planet during the age of the Dinosaurs.

**Bar 47:** Four prominent ascending crotchets played by the solo clarinets once again show ecological tension building, with an ensuing mass extinction looming ahead.

## ***# Fourth Mass Extinction (205 Ma)***

*Cymbal Crash Bar 48*

### **Jurassic (205 Ma – 141 Ma)**

**Bar 48:** The harsh minor chord of the Triassic Mass extinction resolves into a pleasant descending major chord reflecting the return to tranquil equilibrium, allowing the dinosaurs to regain their strength and dominate the Earth once again.

**Bar 50:** Joyful and glorious Rachmaninov style chords are again hammered out on the piano to represent the exuberance and bliss of life during this Geological Period.

**Bar 51:** Strong, strident, marcato crotchets are blasted out by the solo clarinets which represents the strong and steady build up of life and biodiversity during the Jurassic which gave rise to the huge abundance of dinosaur life during the Cretaceous.

## **Cretaceous (141 Ma – 65 Ma)**

**Bar 53:** A brilliant, high soaring musical phrase is belted out of the solo clarinets and echoed by rachmaninov style chords from the piano in bar 54 which represents the enormous complexity, strength, diversity and blissful existence of life on Earth.

**Bar 55:** Descending, dissonant crotchets played by the clarinets represents the ramping down of life towards the end of the Cretaceous.

**Bar 56:** A painful shuddering sound is played by drum rolls on the timpani and snare drum which represents the immense suffering of life due to many factors (Massive volcanism, climate change, oceanic anoxia, reduced sunlight) that weakens life on Earth towards the end of the Cretaceous before it is completely wiped out by a bolide impact.

## ***# Fifth Mass Extinction (65 Ma)***

*Cymbal Crash Bar 57*

## **Cainozoic**

### **Tertiary**

#### **Palaeogene (65 Ma -23 Ma)**

**Bar 58:** The first sextet of ascending triplets played on the piano represents the positive evolution of life (after being slammed down by the end cretaceous mass extinction) forming mammals and primates

#### **Neogene (23 Ma – 1.8 Ma)**

**Bar 59:** The second sextet of ascending triplets played on the piano but now joined with the four clarinets represents the second stage of rapid, positive evolution of the mammals and primates (and others) to give rise to the many and varied forms of life forms which exist today. Most importantly, the human ancestor species of Australopithecus Afarensis is born.

## **Quaternary**

### **Pleistocene (1.8 Ma – 0.01 Ma)**

**Bar 60:** The climax of the entire piece, a strong, semibreve G major chord accompanied by a grand timpani roll represents the birth of the species *Homo sapiens* (modern humans).

### **Holocene (0.01 Ma – 0 Ma)**

**Bar 61:** A very short snap of the final climactic chord representing the insignificant slither of geological time that human civilization has existed for. The final cymbal crash suggests the existence of an ensuing anthropogenically induced mass extinction caused by our reckless and careless rape of the Planet Earth, the ancient benevolent mother that gave us life. This final crash is followed by three beats of silence, mourning the demise of man kind.

## **# 6<sup>th</sup> Mass Extinction? (0 Ma)**

*Cymbal Crash Bar 61*