

**THE GENESIS:
A SYMPHONIC WORK AND ANALYSIS**



MAX KELLER

**A THEIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
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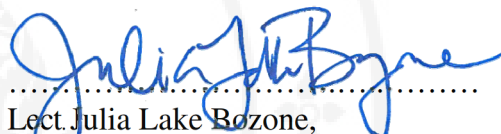
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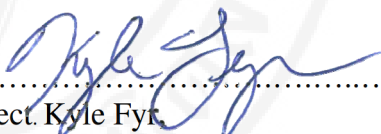
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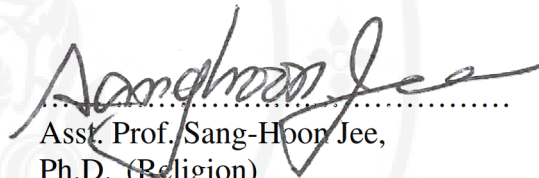
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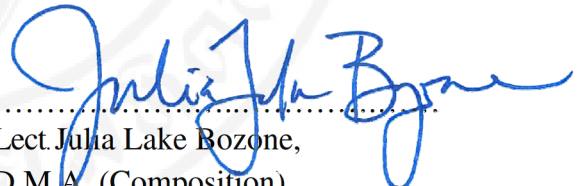
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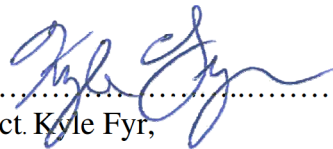
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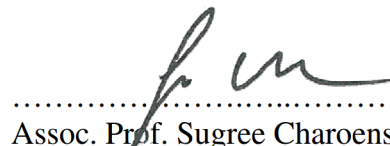
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Max Keller

THE GENESIS: A SYMPHONIC WORK AND ANALYSIS

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ABSTRACT

The biblical account of creation found in the Book of Genesis is known to billions around the world through its proclamation by multiple religions and numerous denominations. As such it is embedded in many cultures, especially that of the Western civilization and art. This paper provides an analysis of The Genesis, a multi-movement symphonic work composed by Max Keller. The work sought to be a musical expression of the creation narrative found in the Book of Genesis with direct correlations to the original text. As such this analysis takes an in depth look into the relationship between the composition itself and the text with specific attention given to the translations of the original Hebrew into English to better understand the reasoning behind the interpretive choices made by the composer and how they are applied musically.

**KEY WORDS: GENESIS / CREATION / EXEGESIS / COMPOSITION/
MUSIC ANALYSIS**

124 pages

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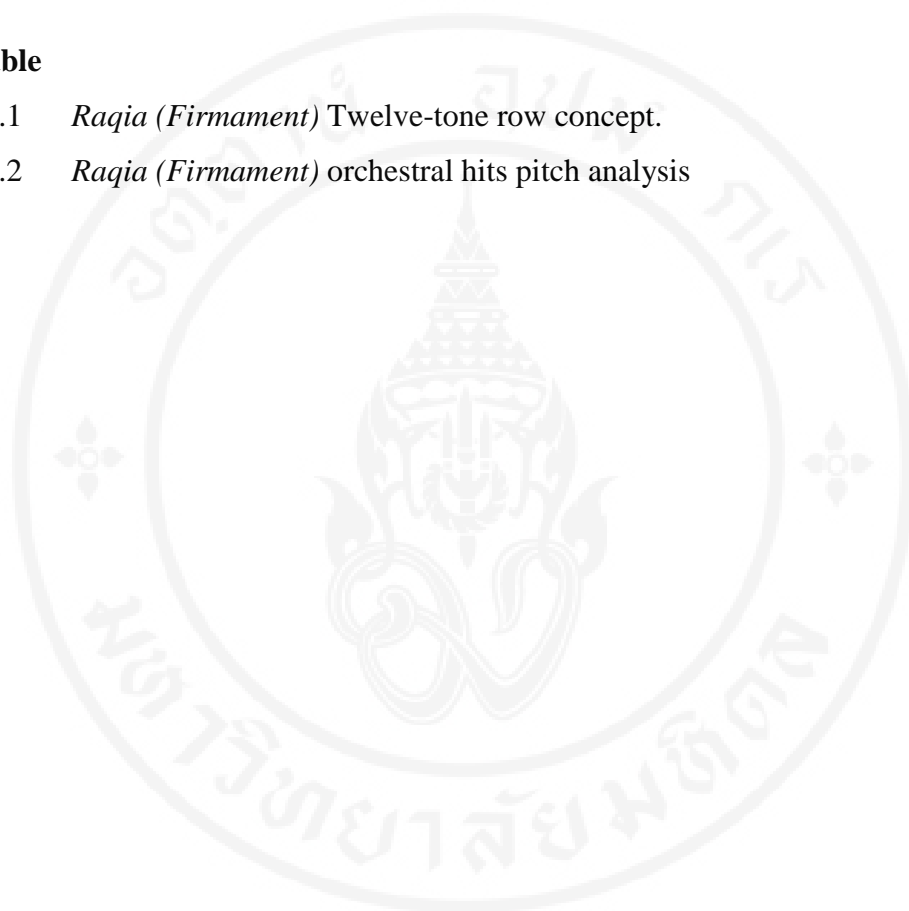
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CHAPTER I INTRODUCTION

1.1 Background and Significance

The Biblical account of creation found in the book of Genesis holds a culturally significant position in the repertoire of Western art and culture. Multiple expressions of its influence through various forms of art have been observable for millennia. Existential issues of identity such as “where did we, as living beings, come from?”, and “why are we here?” can be viewed through the lens of Genesis’ retelling.

Despite the content of the book itself being embedded in the cultural and religious framework of Western society, through its influence over generations, numerous different interpretations and insights are drawn from its text as attested to by the plethora of translations, concordances, summations, and companion works available.

1.2 Objectives

The Genesis by Max Keller is a musical expression of the biblical account of creation. Correlations between music and inspiring text will be shown with special attention given to the translation of the original text and interpretation of it. I will describe in detail how possible translations inspired the music and led to the many of the compositional techniques found within the work.

1.3 Scope

As the work is divided into six segments coinciding with the movements, which each represents one day of creation, the analysis will follow this overarching structure. To best show how different compositional techniques and styles are used there will not be a uniform way of analyzing separate movements. Instead, portions of

analysis will be derived from the demands of the musical context. Throughout the analysis, a *Hebrew Interlinear Bible*, *Strong's Concordance with Hebrew and Greek Lexicon*, and the *King James Bible* will be used to try to better understand the intended relationship between the text and score.



CHAPTER II

LITERATURE REVIEW

2.1 Origin of Biblical Creation in Western Art

Some of the earliest accounts of Genesis' story of creation can be found in poetry of the Bible in the book of Psalms. "By the word of the LORD were the heavens made; and all the host of them by the breath of his mouth." (Psalms 33:6) According to the Hebrew Bible, the Tanakh, God is the creator of the universe and as such "Creation became a key-point in the faith of Israel..." (Luz, 2010) Christians trace their history and faith through the Israelites' writings up until the birth of Jesus. Two of the gospel writers, Matthew and Luke, take time to establish Jesus' genealogy within the history of the Jewish nation and ultimately the world. The account given by Luke begins with Jesus and works backwards to the first man, Adam, and then ultimately God the Creator. (Allen, 2015) Coming out of the same tradition followers of Jesus, Christians, hold creation as a foundational tenet of their faith. As such, the book of Genesis has been the source of inspiration for many great works of Western art.

2.1.1 Visual Art

In 1512 Michelangelo completed his commission from Pope Julius II the frescoes covering the ceiling of the Sistine Chapel. "The Sistine Chapel holds a central place in Christendom as the private chapel of the pope and the site of the papal enclave, where the College of Cardinals gathers to elect new popes. Thanks to Michelangelo... however, the chapel's significance extends to all who have been inspired by the originality and power of his vision—both directly and indirectly, through its influence on subsequent artists and the iconography of world culture." (Katz, 2009)

2.1.2 Literature

The epic poem *Paradise Lost* by John Milton was first published in 1667. When considered today “*Paradise Lost* is not just the greatest epic poem ever written in the English language, it is also one of the greatest epic poems in the wider European Tradition.” (Reisner, 2011, p. 151) The poem goes much beyond the creation of the world to include war in heaven and the fall of mankind described in the *Book of Genesis* after the creation story with its final climax being the telling of the plan of redemption to Adam before he and Eve are cast out of the Garden of Eden (Milton, 1667). While *Paradise Lost* is the most well-known and influential work there are many others that deal with the biblical creation. Many such works also focus on the fall of mankind perhaps due to the drama of a perfect world being corrupted. However, the 20th century poem *The Creation* by the American poet James Weldon Johnson published in 1922 does not delve into any areas other than the creation of the world (Johnson, 1922). Instead, it ends with the creation of man thereby making that the culminating climax of the work which is much more in alignment with the first chapter of *Genesis*.

2.1.3 Western Music

Perhaps the seminal work, in regards to biblical creation, in the classical repertoire is Haydn’s oratorio *The Creation* which had its public premier in 1799. Not completely unique in its language, Milton’s epic poem *Paradise Lost* was a reference for the libretto of Haydn’s work. (Edwards, 1891) “In *The Creation* we see the greatest composer of the time, at the very height of his powers, gathering all his resources to tackle the central mystery of our existence. It was a supreme moment in musical history.” (Temperley, 1991, p. 8)

In the 20th century, a collaborative work headed by film composer Nathaniel Shilkret depicted not only creation, but many of the other stories in Genesis up to the fall of Babel. The work entitled *Genesis Suite* was completed in 1945 and included seven composers. In order by movement they were Arnold Schoenberg’s *Prelude – Earth was without form*, Nathaniel Shilkret’s *Creation*, Alexandre Tansman’s *Adam and Eve*, Darius Milhaud’s *Cain and Abel*, Mario Castelnuovo-

Tedesco's *The Flood* ("Noah's Ark"), Ernst Toch's *The Covenant* ("The Rainbow"), and Igor Stravinsky's *Babel*.

A more recent large-scale work depicting the creation is the ballet *The Creation of the World* by the Russian film composer Andrei Petrov in 1968. "*The Creation of the World* shows Petrov to be a kind of tongue-in-cheek *faux-naif* with its grotesque and effervescent mixture of folk, jazz, and the nursery." (Snook, n.d.) The ballet is based on and named after the cartoon cycle of the same name by the French painter and cartoonist François Lejeune who worked under the pseudonym Jean Effel.

Throughout the pantheon that is Western music the amount of large-scale orchestral works depicting the biblical account of creation are not as numerous as would perhaps be expected of a subject matter that has been and is still exceedingly culturally influential, and it has been some time since there was a truly successful work based on its original content. However, the Bible as a source of inspiration is extremely prevalent in Western music as can be attested to by oratorios such as Handel's *Messiah*, Felix Mendelssohn's *Elijah*, and John Adam's *El Niño*, the ballet *Job: A Masque for Dancing* by Ralph Vaughan Williams, the song cycle *Four Serious Songs* by Brahms, and Leonard Bernstein's Symphony No. 1 entitled *Jeremiah* not to mention the expansive abundance found in the areas of sacred choral and solo vocal works.

CHAPTER III

MATERIALS AND METHODOLOGY

3.1 The Genesis

The Genesis is a programmatic symphonic work composed by Max Keller in 2016 that depicts the creation of the heavens and the earth as described in the biblical book of *Genesis*. The scoring is set for 2 Flutes, Oboe, English Horn, 2 Clarinets in B \flat , 2 Bassoon, 4 Horns in F, 2 Trumpets in B \flat , 2 Trombones, Bass Trombone, Tuba, 4 Timpani, 3 Percussion, Harp, Violin I, Violin II, Viola, Cello and Bass.

3.2 Biblical References

The *Book of Genesis* is part of the Christian sacred text, the Bible, but it is a transcription from the first book of the Torah which is part of the Tanakh, the sacred texts of the Jewish faith. The Protestant Bible consists of sixty-six books divided into two sections, the Old Testament and the New Testament, originally written in Hebrew and Greek respectively, and has been translated and transcribed countless times into many languages over the millennia. The specification of the Protestant Bible denotes the exclusion of the apocrypha which are accepted and included by the Roman Catholic Church.

As the foundational text of the Christian faith the Bible has had a massive influence on the culture of the regions dominated by the Christianity, none more so than Western civilization. With Christian faith being so pervasive within societies outside those that speak Hebrew or Greek the translation of the text itself is highly influential and of consequence as to the practices of the constituents. Accurate translations and interpretations are a constant goal for biblical scholars to this day. For translation of the original Hebrew text of the *Book of Genesis*, this paper will primarily

rely on three sources established sources, the *King James Bible*, *Strong's Concordance with Hebrew and Greek Lexicon*, and a *Hebrew Interlinear Bible*.

3.2.1 King James Version

Also known as the *Authorized Version (AV)*, and the *King James Bible*, the *King James Version (KJV)* is “[t]he most important book in English religion and culture.” (Norton, 2011 p. 1) Commissioned by King James I of England after the Hampton Court Conference in 1604, it was completed in 1611 and became the standard text for the Church of England. Though other translations of the Hebrew text found in the Tanakh into English were made before it, and many have been made after, the *King James Version* is still the most common translation of the book. In addition, for the sake of continuity within this paper the *KJV* is particularly useful as the *Strong's Concordance with Hebrew and Greek Lexicon* utilizes the *KJV* as its primary reference translation.

3.2.2 Strong's Concordance with Hebrew and Greek Lexicon

This work created by the Methodist theologian and educator Dr. James Strong in 1890 lists and indexes every word found in the *King James Bible*. The concordance section reads much like a dictionary, but with a listing of all the occurrences of each word in the *King James Bible* instead of its definition. These words are then linked to their original root words in either Hebrew or Greek by a numbering system created by Dr. Strong. The lexicon portions list each of the numbers giving possible definitions and other possible English translations of each word. *Strong's Concordance with Hebrew and Greek Lexicon* allows for a more in-depth study and interpretation of the original text for those who are illiterate in or simply seeking more information about the original language used.

3.2.3 Hebrew Interlinear Bible

An interlinear bible gives the source language above the translation along with a pronunciation guide and the Strong's number for each specific word. With a digital version, each word and number given is able to be linked to the *Strong's Concordance with Hebrew and Greek Lexicon* and allows for much quicker reference

and interpretation. An example of the format of an interlinear bible can be seen in figure 3.1.

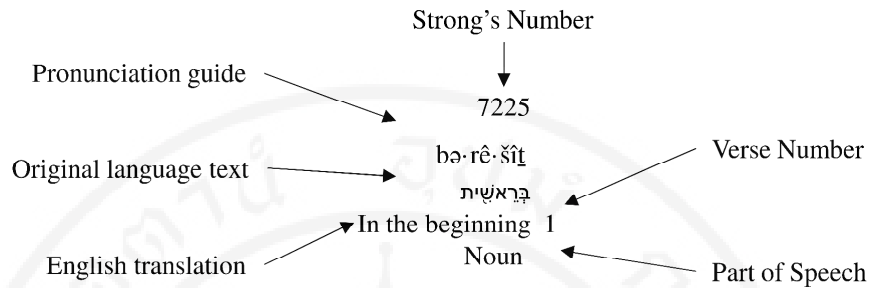


Figure 3.1 Interlinear text example

The specific Hebrew interlinear bible consulted in this analysis is created by *The Online Parallel Bible Project* as published on biblehub.com. This site hosts not only multiple Interlinear Bibles, but also directly links them to the Strong's and numerous translations, the *King James Version* included.

3.3 Methodology

This analysis is divided into two main sections, the methodology which addresses the pre-compositional thoughts, and the results, which displaying those thoughts in music. Both sections are organized in seven smaller sections coinciding with each of the seven movements of the work. The movements themselves are set according to the days of creation described in the *Book of Genesis*. Each day of the creation while containing unique traits and formations fit sequentially into an overarching narrative, and were also viewed in a teleological fashion with the completion of all the Earth and its living inhabitants as the goal. Essentially the analysis will view the entire creation week as being contained within a timeline that depicts order and aesthetic beauty formed out of nothing as well as chaos.

3.3.1 Tohu (Confusion)

¹In the beginning God created the heaven and the earth. ²And the earth was without form, and void; and darkness was upon the face of the deep.

And the Spirit of God moved upon the face of the waters.³ And God said,
Let there be light: and there was light.

⁴ And God saw the light, that it was good: and God divided the light from
the darkness.

⁵ And God called the light Day, and the darkness he called Night. And the
evening and the morning were the first day (KJV, Genesis 1:1-5)

To be able to describe how musically this scene could be depicted the description of the state of the Earth must be examined. Starting in verse two the Earth is described as being “without form, and void.” The words “without form” come from תֹהוֹ (tō-hū). According to Strong (1890), this word carries with it multiple meanings: formlessness, confusion, unreality, and emptiness (h. 8414). Emptiness would coincide with the next description, void, which comes from בְּהוּ (bō-hū) and simply means emptiness (Strong, 1890, h. 922). The image initially would appear to be one of nothing shrouded in darkness. A void of darkness implies emptiness which musically could be directly interpreted as silence. One of the most fundamental elements of sound and music is duration. Silence cannot be heard in terms of pitch or harmony: it is heard in terms of time length (Cage, 1968). The first time length in the text is described in verse five, after the creation of light. It is thus impossible to know the duration of time before that moment. Even the concept of true void cannot be replicated for us. “There is no such thing as an empty space or an empty time. There is always something to see, something to hear. In fact, try as we may to make a silence, we cannot...Until I die there will be sounds. And they will continue following my death.” (Cage, *Experimental Music*, 1978, p.8).

Even with a true void being sonically impossible to recreate, a close interpretation of the text implies that a void is perhaps not the best translation. Right after a formless void is described the Spirit of God “moved upon the face of the waters.” Clearly there must be more than just a void waiting to be filled. Something already exists as there is water for the Spirit of God to move over. Yet, there is a lack of structure and logic to these concepts, emptiness but substance, which create an irrational juxtaposition when compared to the universe as currently understood. This conflict of void and substance existing in the same place at once can perhaps be

described by the other meanings of the word תְּהוֹמָה (tĕhō-hū), those being: formlessness, confusion, and unreality. This confusion and formlessness, chaos, is truly logical as the realities of the observable world were not yet created.

Parallel to the confusion around a void with waters, the concept of chaos in music is a bit of a paradox. Webster's dictionary defines music as "the science or art of ordering tones or sounds in succession, in combination, and in temporal relationships to produce a composition having unity and continuity" (Merriam-Webster, 2016). By simply putting order to sound, structure is created which instantly removes some amount of potential chaos. Confronted with Haydn's depiction of chaos in the first movement of his oratorio *The Creation* Dolan (2013) says,

In broad terms, it presents two problems to present-day critics. The first relates to the idea of composing music disorder. As auspiciously "unmusical" music, Haydn's depiction of chaos raises ontological questions about the nature of the art form itself. An artistic representation of chaos is potentially problematic and self-contradictory, demanding that art embody something that is antithetical to it (p. 136).

However problematic it may appear to be from a musical stand-point, there is substance to chaos which gives more material to work with than a formless void.

... "Chaos" is also a multifaceted statement of "fierce extremes contiguous" and "irregular mixtures," ein *Mischmasch*. At the very center of these latter definitions is the two-tiered concept of the piece which extends back to the earliest sketch; one style exudes the formalism of the liturgy, the other the freedom of the fantasia. The joining of the two different styles of the *ricercar*, other "distempering" juxtapositions, and the bringing together of appropriate music figures, was how Haydn represented "Chaos" ... (Brown, 1989, p. 59).

Using two styles simultaneously was Haydn's solution to create a sense of confusion and hence chaos. Prior to Haydn's attempt to depict chaos, Rameau's

solution in the overture to his opera *Zais* (1748) was to use broken phrases to disrupt normal formal structures expected thereby putting confusion into his audience's mind.

In addition to this issue of describing a chaotic unreality, the state of the earth is dark and cannot be seen until God calls forth light, in verse three. Light is then divided from darkness and the cycle of a full day, day and night, is established. With this the first structures are put into place starkly contrasting the described state of the earth, which at this point has not changed but is simply illuminated. For a composer, this instant when the first bit of creation is enacted easily lends itself to a concept of piercing clarity as well as an overarching formal structure of tension, created by chaos, and release.

[In Haydn's oratorio] The moment of apotheosis comes at the creation of Light, a moment toward which all else ineluctably moves: toward the grand C major at "unde es ward Licht." This much-celebrated C major chord "resolves" all the dissonance of Chaos, and its seemingly impermeable C minor (Kramer, 2012 p. 155).

Haydn sets up the creation of light as a striking moment of clarity and structure through the simple presentation of an epic major chord after implications of minor covered by a chromatic line. This sort of resolution from chaos is also seen in Jean Fery Rebel's overture to *Les Elemens* (1737). According to Rebel,

The introduction to the *Simphonie*...is Chaos itself, the confusion that reigned between the Elements before the instant when, obeying unchanging laws, they had taken the places assigned to them in the Natural order. I have tried to undertake to join to the idea of confusion of the Elements that of the confusion of the harmony, I have tried to have heard at first all the sounds mixed together, or rather, all the notes of the Octave untied in a single sound. Following this, these notes climb together in an altogether natural progression and, after a dissonance, on hears a perfect chord (as cited in Anthony, 1974, p. 310).

However powerful this effect maybe the ramifications of fighting against the Biblical text. It is as if in that moment, all of creation was formed into being, and while that may have been case in Rebel's work, in the Hebrew account of creation the act of light's creation was only the first step. Everything is not put into place. Earth's condition was still a confusing state at this point. Therefore, the perceived consonance of a tertian triad is not merited due to the persisting existence of chaos.

To accurately depict the text there are a few key points that need to be addressed: the chaotic condition of the Earth, the Spirit of God moving over the waters, and the creation of light and day. These will be the main structural features looked for in the musical materials and results produced.

3.3.2 Raqia (Firmament)

⁶ And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters.

⁷ And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it was so.

⁸ And God called the firmament Heaven. And the evening and the morning were the second day (KJV, Genesis 1:6-8).

There is much debate around what exactly is created on the second day. Is it all of the heavens? Then why is there creation of the sun, moon, and stars on the fourth day? Is it the sky? Then why is it separating waters since we don't find water above the sky? The word for firmament רָקִיעַ (rā·qī·a') is defined as an extended surface or expanse. Strong continues by saying that it is, from raqa'; properly, an expanse, i.e. the firmament or (apparently) visible arch of the sky -- firmament (Strong, 1890, h. 7549). This would seem like a clear definition until the word רָקִיעַ (raqa') is explored. Strong defines this word as: to beat, stamp, beat out, or spread out (1890, h. 7554). Stamp or beating implies a more physical phenomenon than just the visual illusion we know as the horizon, and more importantly where is the water the sky is in the middle of?

Genesis 1 says several important things about the “firmament.” First, its function was to separate the waters below from those above. The fact that it separates the waters could suggest that there is an element of concreteness to it, but nothing is said specifically. This silence makes it possible for us to use the modern word “atmosphere” to designate it. Second, the suggestion that the reference is to the atmosphere is reinforced by the fact that the “firmament” is the space where birds fly “Let birds fly above the earth across the expanse of the sky” (verse 20, NIV) Third, the “firmament,” or expanse, is specifically called “heavens,” or more precisely, “sky” ... The emphasis is not on concreteness but rather on the space separating the waters... The word “firmament” does not distinguish between the sky and the stellar heavens, but neither does it deny that distinction. The description in the text is from the perspective of a person who looks up and sees the moon and the sun in the sky. (Rodríguez, 1999, p.1-2)

Other theories of the firmament include some type of physical canopy in the form of a dome of liquid water, water crystals, or water vapor as theorized by Henry M. Morris in *The Genesis Record*. Regardless of whether it is a separation of bodies of water, a visual illusion created by the formation of the sky, or simply a stretching out of the atmosphere and/or space above, the text is clear that there is a division of two things by an expanse. The emphasis for a narrative of the second day musically is then the action of dividing things from each other, one above and one below.

3.3.3 Karpos (Fruit)

⁹ And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so.

¹⁰ And God called the dry land Earth; and the gathering together of the waters called the Seas: and God saw that it was good.

¹¹ And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so.

¹² And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind: and God saw that it was good.

¹³ And the evening and the morning were the third day (KJV, Genesis 1:9-13).

The third day is an especially important day in the *Genesis* account of creation. Not only is a major horizontal divide formed on the surface of the Earth, land from water, but it is also the first day that life is brought forth. Plants are the basis for the ecosystem as we know it. While they provide many functions for the world one aspect that is brought into focus in verse 11 is פֵּרִי (pə·rî) which means fruit (Strong, 1890, h. 6529). Fruit, and seed, is produced by plants and consumed by animals then for a time the fruit will be present inside the animal, through digestion, before being ultimately used as part of the animal.

With this concept of the fruit being consumed and becoming part of a later creation in mind, musically some material that could be part of but not fully represented in later movements would be ideal. A removal of pitches from a scale would facilitate the concept as the remaining notes are part of the later utilized pitch collection while at the same time being able to retain few easily observable surface qualities such as melody or rhythm, much in the same way an apple no more resembles a horse. With a diatonic scale essentially reserved for later movements, to facilitate a sense of progress in resolution for a listener, this lends directly to the utilization of a pentatonic scale. The case for a pentatonic scale is not just self-contained within the work solely, but also lends to the psychology of many listeners around the world, considering that the pentatonic scale pervades music history in numerous cultures and folk traditions.

3.3.4 Kokab (Stars)

¹⁴ And God said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years:

¹⁵ And let them be for lights in the firmament of the heaven to give light upon the earth: and it was so.

¹⁶ And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also.

¹⁷ And God set them in the firmament of the heaven to give light upon the earth,

¹⁸ And to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good.

¹⁹ And the evening and the morning were the fourth day (KJV, Genesis1:14-19).

For the first three days of creation light had just been present without acknowledgment of its source. There had been evening and morning each day yet it is not described how the light came or went. With the creation of the sun, moon, and stars, order to the heavens is brought about as well as giving the light a defined source.

Not mentioned in the text is that the source of the moon's light is its reflecting of the sun's light. This reflection is an interesting aspect to consider musically. Many compositional techniques such as pitch inversion, retrograde, and palindromes can all be viewed in terms of reflection, making them fitting choices for the presentation of the moon.

Another consideration in terms of difference between the sun and the moon is the presence of radiant heat. The moon does not give warmth to the Earth with its light in any discernable amount. Before the moon there is no mention of light at night. There was light for the day and darkness for the night. In addition, there was no mention of whether the light of the day gave off heat or not. With the creation of a greater light to rule the day and lesser light at night the biggest difference, other than the amount of light, is heat. While there is no direct musical equivalent to temperature,

heat as well as light can be observed in terms of relative intensity, which is more easily equated to music through dynamics, articulation, and orchestration.

3.3.5 Tannin eth Oph (Whales and Birds)

²⁰ And God said, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven.

²¹ And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good.

²² And God blessed them, saying, Be fruitful, and multiply, and fill the waters in the seas, and let fowl multiply in the earth.

²³ And the evening and the morning were the fifth day. (KJV, Genesis 1:20-23)

The foundations of the earth have been laid. The observable heavens are in place, and the world has been populated by plants. At this point the first moving creatures are created. While on the surface this portion of the text appears straightforward in terms of what is created, it is interesting that two types of animals are more specifically mentioned, those being flying fowl and whales, and a large portion are grouped separately, “every living creature that moveth, which the waters brought forth...” The word “whales” is translated from two words תַּנִּינִים (hat-tan-nî-nim) which means serpent, dragon, or sea monster (Strong, 1890. h. 8577) and הַגְּדֹלִים (hag-gə-dō-lîm) which means great (Strong, 1890. h. 1419). Granted there is the possibility of some debate as to if this means only whales or if other large sea creatures, such as the giant squid, might also be included. However, if it is truly just referring to whales then from a musical standpoint it is quite interesting in that the vast majority of animals of flight as well as a few whales are known for their singing.

[Humpback] Whale songs are structured like this: one or several sounds make up a phrase, the phrase is repeated and becomes a theme, and several

themes make up a song. On average songs last from seven to thirty minutes, the singer will repeat the song in its same order... Whales do not sing mechanically but compose as they go, incorporating new pieces into old songs... (Picoult, 1992. p. 7).

When compared to whales, a much larger number of birds sing and make music. Famed ornithologist Luis Baptista said,

"As composers birds often use the same rhythmic variations, pitch relationships, permutations and combinations of notes as found in music so that some bird songs resemble musical compositions. And they often vary themes in much the same way as humans." Some bird song uses the eight-note scale of Western music, and others use a five-note scale common in Chinese music. (Baptista, 2000, as quoted in the LA Times)

With obviously some exceptions and a little poetic license, it can be read that the more specifically grouped animals created on this day were in effect musicians as most other sea life (i.e. fish, crustaceans, mollusks, etc.) do not produce any sounds resembling music if they produce sounds at all.

With the concept of the focal creation of the day being nature's musicians, then a piece utilizing techniques to mimic the songs of these creatures would be an appropriate representation and tribute to the Earth's first musicians. There have been multiple instruments and playing techniques developed to specifically mimic various animal and nature sounds. Instruments or techniques that mimic birds could include, but are not limited to, water whistles that mimic song birds, the "sea gull effect" developed by George Crumb, slide whistles, or even specifically designed hunting calls such as a wooden duck or turkey call. The French composer Olivier Messiaen studied birds and expended great care in trying to recreate their sounds using traditional Western instruments. "It's probable that in the artistic hierarchy birds are the greatest musicians existing on our planet." (Messiaen, *Conversations with Oliver Messiaen*, 1967) Messiaen's *Treatise of Rhythm, Colour and Birdsong* combined his synesthesia and love of birds.

“My faith is the grand drama of my life. I’m a believer, so I sing words of God to those who have no faith. I give bird songs to those who dwell in the cities and have never heard them, make rhythms for those who know only military marches or jazz, and paint colours for those who see none.” (Messiaen as quoted by Andrews, 2003)

Whales on the other hand are not as prominently featured in the musical traditions of humans, but this is perhaps due to the relatively new knowledge of their music when compared to that of birds. Still, there are instruments and techniques that can be adapted to mimic their vocalizations such as various uses of a friction mallet, bow pressure, or a waterphone.

3.3.6 Adam (Mankind)

²⁴ And God said, Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind: and it was so.

²⁵ And God made the beast of the earth after his kind, and cattle after their kind, and every thing that creepeth upon the earth after his kind: and God saw that it was good.

²⁶ And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.

²⁷ So God created man in his own image, in the image of God created he him; male and female created he them.

²⁸ And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.

²⁹ And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.

³⁰ And to every beast of the earth, and to every fowl of the air, and to every thing that creepeth upon the earth, wherein there is life, I have given every green herb for meat: and it was so.

³¹ And God saw every thing that he had made, and, behold, it was very good. And the evening and the morning were the sixth day. (KJV, Genesis 1:24-31)

The sixth day of creation is the completion day for the creation of the physical world in which all of the inhabitants of the earth live. On this day the animals that inhabit the land are created. It is also on this day when humans are created giving insight into the biblical answers to the questions of where do we come from and why are we here.

The word for man is אָדָם ('ā-dām) which, much like the English version of the word, can mean a single man or mankind (Strong, 1890, h. 120). In verse 27 this meaning is clarified by the statement “male and female created he them.” After the creation of humans God declares it good and the day ends. It would appear that man and woman were created at the exact same time, but in the second chapter of Genesis the details of their creation are given.

⁷And the LORD God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.

¹⁵And the LORD God took the man, and put him into the garden of Eden to dress it and to keep it.

¹⁸And the LORD God said, It is not good that the man should be alone; I will make him an help meet for him.

²⁰And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field; but for Adam there was not found an help meet for him.

²¹And the LORD God caused a deep sleep to fall upon Adam, and he slept: and he took one of his ribs, and closed up the flesh instead thereof;

²²And the rib, which the LORD God had taken from man, made he a woman, and brought her unto the man.

²³And Adam said, This is now bone of my bones, and flesh of my flesh: she shall be called Woman, because she was taken out of Man.

²⁴Therefore shall a man leave his father and his mother, and shall cleave unto his wife: and they shall be one flesh. (KJV, Genesis 2:7,15,18, 20-24)

Genesis chapter 2 clearly explains that the man was created first and that woman was created from the rib of the man. This reading could lead to misogynistic tendencies by men boasting about being first and that woman came from a small piece of the first man. This view is misguided in regards to the text itself and needs to be addressed in a musical setting if listeners are to understand the creation found in the *Book of Genesis* as a whole.

The creation of woman, and thereby women in general, is by no means degraded in the biblical account. Genesis 1:28 states, And God blessed them...(KJV, Genesis 1:28). This is an inclusive statement that does not exclude either woman or man from the blessing or the gifts and responsibilities given in regards to the Earth. Being equally blessed and equally responsible puts them on equal ground. However, the only time in the first two chapters that the phrase “not good” appears is in verse 18 And the LORD God said, It is not good that the man should be alone; I will make him an help meet for him (KJV, Genesis 2:18). Up until this point everything had been declared good by God, but a man alone is not good.

The term “help meet,” used to describe woman, comes from two Hebrew words those being עֵזֶר (‘ê·zer) which means a help or helper (Strong 1890, h. 5828) and כְּנֶגְדּוֹ: (kə·neḡ·dōw) which translates to in front of, in sight of, or opposite to (Strong 1890, h. 5048). עֵזֶר (‘ê·zer) could lead to an interpretation of woman being a servant or a side-kick to the man, but that would completely ignore the blessing given in chapter 1. Considering that both are equally blessed and equally responsible an appropriate interpretation of a helper that is both opposite to and equal to the man, a help meet, would be a partner. It is not until after the creation of the woman that God

declares the day good and completes it. In many ways this makes woman the culmination of all of the life created by God on Earth. She is the key to the completeness of the world's creation. As partners, woman with man, are said to be one flesh (KJV, Genesis 2:24) coming from the word **לֶבְשָׂר** (lə·bā·śār) which can mean flesh, body, kin, or self (Strong 1890, h. 1320). The climactic scene in which God ends the sixth day is then man and woman together, as one unit, being given charge of the new created world. This interpretation is in line with that of Ellen G. White, “[i]n the creation, God had made her the equal of Adam” (White, Adventist Home, 1952). Further reading into Ellen G. White's interpretation can also be found in Testimonies for the Church Vol. 3 where she states,

“When God created Eve, He designed that she should possess neither inferiority nor superiority to the man, but that in all things she should be his equal. The holy pair were to have no interest independent of each other; and yet each had an individuality in thinking and acting” (White, Testimonies for the Church Volume 3, 1875 p. 484).

3.3.7 Shabath (Rest)

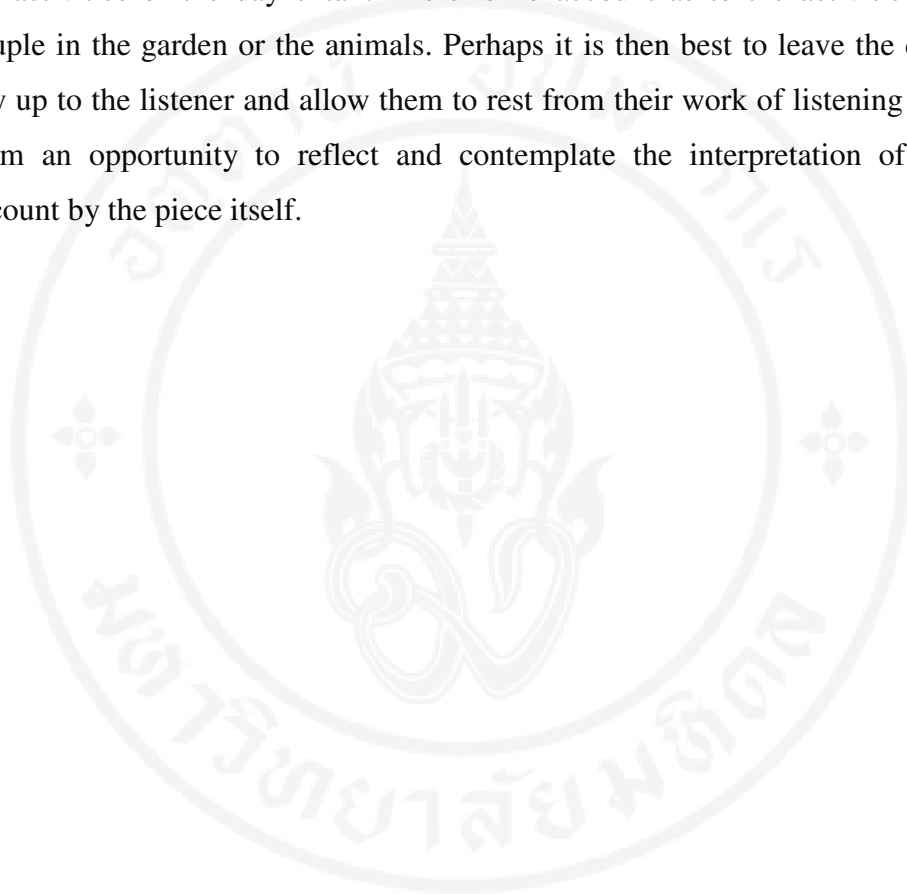
¹Thus the heavens and the earth were finished, and all the host of them.

²And on the seventh day God ended his work which he had made; and he rested on the seventh day from all his work which he had made.

³And God blessed the seventh day, and sanctified it: because that in it he had rested from all his work which God created and made. (KJV, Genesis 2:1-3)

The seventh day of creation is one of rest from work. The Hebrew word for rest is **שָׁבַת** (šā·bat) which can be interpreted as to repose or to celebrate (Strong 1890, h. 7673) and celebration after the physical creation of the world. The day special in that it is sanctified coming from the word **קָדַשׁ** (way·qad·dēš) which means to be set apart or consecrated (Strong 1890, h. 6942) While the seventh day does not bring any new physical creation it brings a special day in which work is ceased.

There could be multiple interpretations of the seventh day musically. There is rest, celebration, a blessed and sanctified day, and each one elicits a different expectation of mood and musical style for a listener. In addition to this other than the day being set aside, and God resting from his work there is no more detail as to what the activities of the day entail. There is no account as to the activities of the new couple in the garden or the animals. Perhaps it is then best to leave the details of the day up to the listener and allow them to rest from their work of listening while giving them an opportunity to reflect and contemplate the interpretation of the biblical account by the piece itself.



CHAPTER IV RESULTS

4.1 Analysis

The analysis was conducted in six sections coinciding with each of the six movements. The overarching narrative is also noted within each movement’s analysis.

4.1.1 Tohu (Confusion)

In the first movement of *The Genesis* the main elements of the text found in verses two through five are: the chaotic state of the world having some substance but existing outside of time, the Spirit of God moving over the waters, and the creation of light illuminating the world.

To give a sense of chaos, but suspense for what is to come, within an empty space the strings are in unmeasured tremolo. Building by entrances at the P5 they continue until all twelve pitches are present. (see Figure 4.1).

Figure 4.1. *Tohu (Confusion)* measures 1-5 (Keller, 2016)

At the instant of light’s creation, the chaos created in the stings is exposed. The energy from the tremolo is exchanged for individual glissandos, which enhances

The Spirit of God moving over the waters is depicted in the timpani line, as shown in Figure 4.3 on page 25, which uses snare drum sticks while the drum pedal is worked.

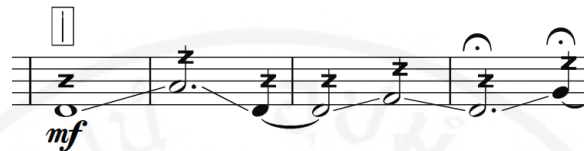


Figure 4.3. *Tohu (Confusion)* measures 17-20 (Keller, 2016)

This technique can also be seen in the movement *Canto* from Elliot Carter’s work *Eight Pieces for Four Timpani* (1966). It has an airy melodic quality that is also muddled, giving more a sense of pitch direction than true melodic line.

The creation of light is where the work really changes in philosophy from many other works. It is signaled by the timpani and bass drum rhythmically voicing “let there be, Light!” as shown in Figure 4.4.



Figure 4.4. *Tohu (Confusion)* measures 32-36 (Keller, 2016)

At that moment, the tam-tam and cymbals fill out what would be the articulation of the word “light,” the chaos created in the strings is exposed, to relate the concept of the world not yet being formed and shaped, while the winds cut through with quintal harmonies in rising and falling dynamics as if they are rays of light shining through the confusion. Eventually the winds give one last chord and then fade away leaving the chaos of the strings to wander into the newly created night of the next day. Overall this movement follows the structure of a day as described in the

Bible. The biblical day starts with evening, night, and begins with morning. By retaining the morning until the later portion of the movement it mimics this while also depicting the continuation of the state of the world into the next day at the end.

4.1.2 Raqia (Firmament)

The structure of the second movement revolves around the conceptualization of vertical separation in reference to the creation of the firmament. After the mixing of all pitches to form chaos in the first movement, pitch is used to depict this vertical separation and to give a sense of progression away from chaos towards order and design. Pitch is naturally recognized based on frequency and each pitch can be described as being higher or lower compared to a different pitch.

The initial concept was to use a form of a twelve-tone system as it would contain all the pitches in an ordered form that would be difficult for an audience to perceive thereby containing the concept of order being formed from chaos. The design would contain two twelve-tone rows instead of one and would have them progressively move apart from a more centralized pitch location into a fully orchestrated and open setting at the end. The rows were as follows: A, B, B \flat , A \flat , E \flat , D, G \flat , F, D \flat , G, E, C, and A \flat , G, E \flat , D \flat , E, B \flat , F, B, C, A, D, G \flat . These were then grouped into pitch sets with the goal of a polychord at the end to depict two separate entities, as shown in Table 4.1.

Table 4.1. *Raqia (Firmament)* Twelve-tone row concept.

	1	2	3	4	5
Row 1	A, B	B \flat , A \flat	E \flat , D, G \flat ,	F, D \flat ,	G, E, C
Row 2	A \flat , G	E \flat , D \flat ,	E, B \flat , F	B, C	A, D, G \flat ,

This concept was included in the proposal for the project as well. The issue that came out of it was the aesthetic. Predetermining the rows to split led to reserving the rows full completion harmonically until the end. Due to the nature of typical twelve-tone rules stipulating that a pitch must not be returned to before all the pitches have sounded led to a conclusion this made the length of the movement to be quite short. In an effort to increase its length giving the movement more space within the

entire work, the use of rhythm was the logical conclusion to bring intrigue to what would otherwise be held notes. It was decided that the individual rows should hold separate rhythms as well to make them more easily distinguishable at large pitch differences but muddled when close together. The rhythms were divided between the bass drum, as seen in Figure 4.5, and the timpani while the pitches were also being divided among the horns and trombones using the same rhythmic patterns, as shown in Figure 4.6.

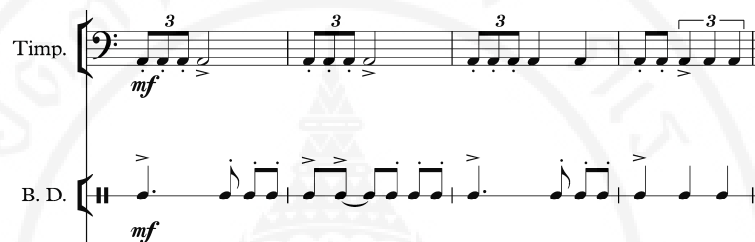


Figure 4.5. *Raqia (Firmament)* Twelve-tone row rhythmic concept.



Figure 4.6. *Raqia (Firmament)* Twelve-tone row rhythmic concept with pitches.

While from a theoretical standpoint this entire concept is logical in its depiction of the text, the actual results of it were to say the least, boring musically. After much thought, the entire framework of the twelve-tone concept was thrown out in favor of a more aesthetically pleasing result to my, the composer's, ear. The concept of pitch being used to depict separation was however not completely let go of either, just the strictness of the pseudo twelve-tone system contrived and the harmonic results of it. To depict the expansion, a centralized pitch was chosen and then chords

emanating out of it getting higher and lower at the same time were used. The chords were chosen by ear, but designed to move in stepwise motion as much as possible.

In the score the orchestra is divided into four sections the harp, percussion, higher in pitched (Flutes, Oboe, English Horn, Clarinets, Horns, Trumpet, Violin and Viola), and lower in pitched (Bassoons, Trombones, Bass Trombones, Tuba, Cello, and Bass). To start, the timpani and snare hold a rhythmic ostinato. (see Figure 4.7).



Figure 4.7 *Raqia (Firmament)* measures 1-4 (Keller, 2016)

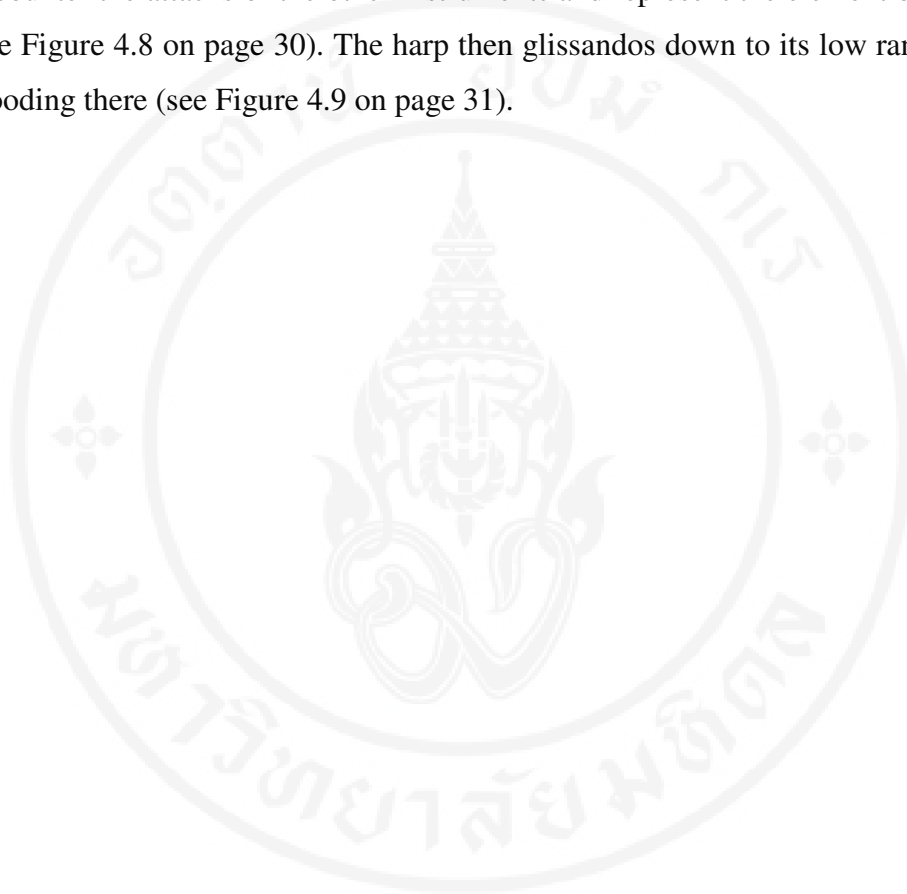
The compound time signature of $\frac{12}{8}$ is punctuated by a duplet pattern every two measures giving a sense of ambiguity between simple and compound times. The wind and string sections of the orchestra are divided into two choirs those being higher in pitch (Flutes, Oboe, English Horn, Clarinets, Horns, Trumpet, Violin and Viola), and those lower in pitch (Bassoons, Trombones, Bass Trombones, Tuba, Cello, and Bass). These choirs may not be easily distinguished on first observation as they are in rhythmical unison creating short orchestral hits. However, the choirs are harmonized around their own pitch materials with one rising vertically in pitch overall and the other descending with the focal point starting at C (see Table 4.2).

Table 4.2. *Raqia (Firmament)* orchestral hits pitch analysis

					B	C#	D	D#	E	G
High Choir			G	A	G#	A	A	A#	C	D
		F#	E	F#	E	F#	F	F	G#	A
Timpani	D	D	C	D	C#	D	C	C	D#	F
	C									
Low Choir	B	B	A	D	A	A	G	G	F	F#
		G	F	G	F#	E	C	C	A#	A
			E	D	B	F	F	D#	C	
				B	F#	A#	A#	G#	D#	

These two sections combined in the meter lend themselves well to creating a sense of order and structure being forced though the dense confusion of pitch presented in the first movement.

In the midst of these elements is the harp which is given watery glissandos to counter the attacks of the other instruments and represent the element of water itself (see Figure 4.8 on page 30). The harp then glissandos down to its low range and stays brooding there (see Figure 4.9 on page 31).



Moderato $\text{♩} = 116$

Flute 1
Flute 2
Oboe 1
English Horn
Clarinet in Bb 1
Clarinet in Bb 2
Bassoon 1
Bassoon 2
Horn in F 1
Horn in F 2
Horn in F 3
Horn in F 4
Trumpet in Bb 1
Trumpet in Bb 2
Trombone 1
Trombone 2
Bass Trombone
Tuba
Timpani
Percussion 1 Snare
Percussion 2 Bass Drum
Percussion 3 Cymbals
Harp
Violin I
Violin II
Viola
Violoncello
Contrabass

EBUNGGAH
BK3DA
F - F#

Moderato $\text{♩} = 116$

Figure 4.8 *Raqia (Firmament)* measures 1-10 (Keller, 2016)

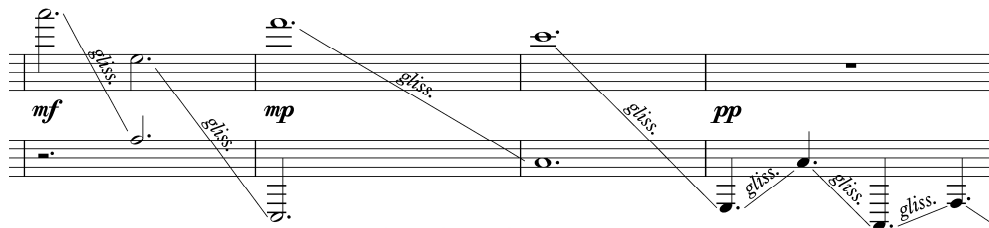


Figure 4.9. *Raqia (Firmament)* measures 17-20 (Keller, 2016)

At the same time the woodwinds introduce and begin melodic development on the interval of a perfect fifth (see Figure 4.10). The ostinato is tucked away in the basses in augmentation (see Figure 4.11).



Figure 4.10 *Raqia (Firmament)* measures 22-27 (Keller, 2016)



Figure 4.11 *Raqia (Firmament)* measures 17-19 (Keller, 2016)

This short quiet break is interrupted by the full-force return of the percussion ostinato and orchestral expansion which crescendos only to leave the percussion quietly alone. Here the melodic theme built from the P5 is brought back by the horn, and then developed by the woodwinds (see Figure 4.12).



Figure 4.12 *Raqia (Firmament)* measures 41-42 (Keller, 2016)

The brass section then comes in and combines the intervallic based theme with the rhythmic ostinato for a grand climactic ending which implies C major, as shown in Figure 4.13, but finally concludes with a three-note quintal chord of C, G, and D.

The musical score consists of four staves, each representing a different brass instrument: Tpt. 1, Tpt. 2, Tbn. 1, and Tbn. 2. The notation is in 4/4 time. The first two measures show a rhythmic ostinato of eighth notes with rests. In the third measure, each instrument part begins a melodic line that leads to a three-note quintal chord (C, G, D) in the final measure. The chord is indicated by a '4' below the notes, suggesting a four-part harmony.

Figure 4.13 *Raqia (Firmament)* measures 51-52 (Keller, 2016)

The ending of this movement with the quintal chord gives a bright but open ended sound. This is a reference to the creation of the firmament on that day, but being open and unresolved it is also fitting conclusion to the placement of the text and movement within the larger scope of the work.

4.1.3 Peri (Fruit)

The start of the 3rd movement begins with percussion and heavy brass accents symbolizing the separation of land from water. (see Figure 4.14 on page 33).

The image shows a musical score for a brass ensemble. The instruments listed on the left are Horn in F 1, Horn in F 2, Horn in F 3, Horn in F 4, Trumpet in Bb 1, Trumpet in Bb 2, Trombone 1, Trombone 2, Bass Trombone, and Tuba. The score is in 2/4 time. The music consists of a series of chords, with dynamic markings of *ff*, *fp*, and *ff*. There are triplet markings over some of the notes. The score is for measures 1-12.

Figure 4.14 *Peri (Fruit)* measures 1-12 (Keller, 2016)

The brass contain a series of extended chords built using only natural notes while ultimately centering around D. In measures 24-25 and 29-30 the only tertian triad, F major, appears. With the notes of C and G in measure 28 it would briefly seem like a cadence in F if not for the F chords being in second inversion and the lack of E to fill out the full C major chord. Couple this with the declining dynamics compared to the volume given to the Dm^{11} and $Am^{7(omit5)}$ chords around them along with the chords being essentially derived from the previous harmony of Dm^{11} and the normal functional relationship is lost. (see Figure 4.15 on page 34).

Figure 4.15 *Peri (Fruit)* chord analysis for measures 1-45

This section culminates in a series of crashes. Along with the chords in the brass waves against the rocks are painted before a grand pause is reached before, in measure 47, the marimba signals the first sprouts of life. (see Figure 4.16). This spreads to the harp and bassoon ending on D with a Bartok pizzicato in the strings. After this the clarinets start a duet and are joined by the other winds. (see Figure 4.17).

Figure 4.16 *Peri (Fruit)* measures 47-57 (Keller, 2016)

Figure 4.17 *Peri (Fruit)* measures 88-93 (Keller, 2016)

The strings then enter staggered ushering in an extended melodic line in the cello and horns. (see Figure 4.18). The harp signals a change of scene to a flute duet accompanied by the marimba which leads to a brass choral. (see Figure 4.19).

Figure 4.18 *Peri (Fruit)* measures 109-116 (Keller, 2016)

Figure 4.19 *Peri (Fruit)* measures 143-149 (Keller, 2016)

The strings then enter again with figures derived from their previous staggered entrance and sequence to a change of key to fs minor pentatonic. Once they arrive to the new key the woodwinds and marimba present a folk inspired pentatonic melody to finish off the movement. Each of these short scenes are much like walking through a garden where different plants and flowers can be viewed as they are passed by. Though they have different orchestrations, melodic content, and rhythms, the pentatonic scale unifies them.

4.1.4 Kokab (Stars)

The movement starts with just the vibraphone and glockenspiel giving a sense of stars suspended in space. (see Figure 4.20).

The musical score for measures 1-7 of *Kokab (Stars)* features two staves. The top staff is for the Glockenspiel, written in treble clef with a 4/4 time signature. It begins with a whole rest in measure 1, followed by a half note G4 in measure 2, a half note A4 in measure 3, a half note B4 in measure 4, and a half note C5 in measure 5. The bottom staff is for the Vibraphone, also in treble clef with a 4/4 time signature. It plays a series of chords: a whole note G4 in measure 1, a whole note G4-A4 in measure 2, a whole note G4-A4-B4 in measure 3, a whole note G4-A4-B4-C5 in measure 4, and a whole note G4 in measure 5. Both parts are marked with a piano (*p*) dynamic.

Figure 4.20 *Kokab (Stars)* measures 1-7 (Keller, 2016)

Breaking through the stillness the brass anticipate the arrival of the sun which comes into full view in measure twenty seven with a fortissimo on an E major chord. The brass parts are loud and full with short rests spread out among the parts so that players can breathe while the ensemble is able to maintain a high level of volume lending to a sense of the sun being both intense and constant. (see Figure 4.21).

The musical score for measures 23-29 of *Kokab (Stars)* features nine staves for brass instruments: Horns 1-4, Trumpets 1-2, Trombones 1-2, Baritone Trombone, and Tuba. The score is in 4/4 time. Measures 23-26 show the brass instruments playing sustained notes, often marked 'open' and 'pp' (pianissimo). In measure 27, the brass instruments play a fortissimo (*ff*) E major chord, with many parts featuring triplets and short rests. The dynamic remains fortissimo through measure 29.

Figure 4.21 *Kokab (Stars)* measures 23-29 (Keller, 2016)

After the arrival of the sun the vibraphone and glockenspiel return and transition into the presentation of the moon by the strings and woodwinds. The relationship between the presentation of the sun and the moon holds a reflective property though it is certainly not a direct reflection. This reflective relationship is seen in the harmonic progressions of the two. The sun first presents its harmonic progression starting in measure 4. (see Figure 22).

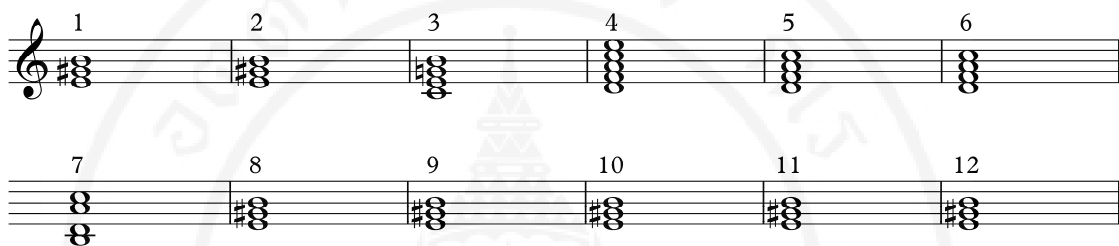


Figure 4.22 *Kokab (Stars)* chord progression for the sun.

The chords utilized in the progression are tertian in design. While there is not directly functional harmony, the use of tertian chords to a listener brings a sense of normalized structure in music especially compared to the chaos of the first movement. These tertian chords refer the structure of light sources, astronomy, and physics as we know it. While the earth is not fully complete the fourth day is the first day when the final physical structures observed from the earth are put into place.

Utilizing all of the same chords as the sun, but in a different order due to a couple utilizations of retrograde to invoke the concept of reflection, is the harmonic progression of the moon, starting in measure 47. (see Figure 4.23).

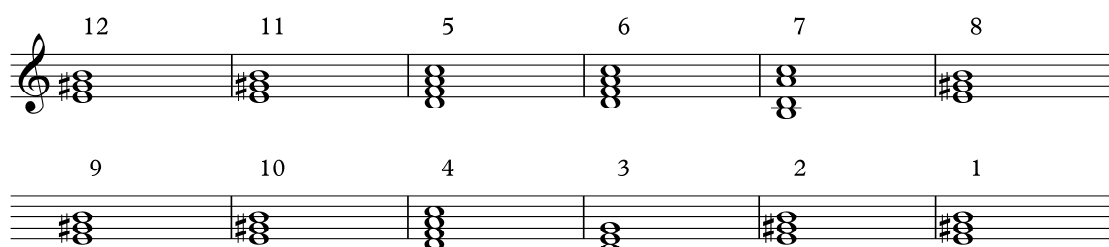


Figure 4.23 *Kokab (Stars)* chord progression for the moon with the sun's numberings.

The reflection of the moon as a retrograde of the sun is only the outer chords of the full sun progression with the first four being switched with the last two.

This is actually much like the light that physically comes from the moon in that while it is a reflection of the sun, and comes to the earth at a reflected angle, the light itself is still the same light traveling at the same speed as that which left the sun. Yet, however descriptive philosophically the reflection of the moon may be represented, the choice of full or partial retrogression was truly one of musical aesthetics.

4.1.5 Tannin eth Oph (Whales and Birds)

The fifth movement of *Genesis* is different from the other movements in that it is designed to mimic the songs of birds and whales themselves, rather than to create a philosophical reasoning behind the compositional choice. The movement is essentially divided into two sections: first whales and then birds. It starts with the sound of an ocean drum before the strings enter muted with quintal and quartal harmonies. (see Figure 4.24).

The musical score for measures 11-18 of 'Tannin eth Oph (Whales and Birds)' is presented below. The score is divided into two sections, with a section marker 'A' appearing above measure 11 and below measure 14. The instruments and their parts are as follows:

- Timp.:** Measures 11-13 are silent. Measure 14 has a note marked *p* with a 'Friction Mallet' instruction above it. Measure 15 has a note marked *f*.
- Perc. 1:** Measures 11-13 have notes marked *p* and *mf* with 'gliss.' markings above them.
- Perc. 2:** Measures 11-13 are silent. Measure 14 has a note marked *f* with 'Friction Mallet' and 'Snare Drum snares off' instructions above it.
- Perc. 3:** Measures 11-13 are silent. Measure 14 has a note marked *f* with 'Friction mallet on the sound board' instruction above it.
- Hp.:** Measures 11-13 are silent. Measure 14 has a note marked *ff*.
- S. Vc.:** Measures 11-13 are silent. Measure 14 has a note marked *p* and *mf*.
- Vln. I, Vln. II, Vla., Vc., Cb.:** All string parts are marked 'con sord.' (con sordina). They play sustained notes with dynamics ranging from *mf* to *pp*.

Figure 4.24 *Tannin eth Oph (Whales and Birds)* measures 11- 18 (Keller, 2016)

In addition, there is also a cello solo backed by various percussive instruments mimicking the sounds of whales. Some of these instruments include the timpani, snare drum, and harp. One timpani has a cymbal freely placed upside-down on the drum head which is then bowed while the drum head tension is altered giving a glissando effect to the cymbal's sound. The other instruments utilize a friction mallet. This mallet is not used to strike the instrument but is instead dragged across the instrument to sound from friction alone.

At measure 31 there is a break in the harmonies and these whale sounds are allowed to exist on their own. The cello and strings return with the cello rising higher and higher as it seeks the surface of the water where the whale breaks through for a breath as created by the brass emptying out their water. (see Figure 4.25).



sfz >
Empty water
valve forcefully

Figure 4.25 *Tannin eth Oph (Whales and Birds)* measure 53 (Keller, 2016)

This technique is quite unique and grows out of a bit of speculation on the part of the composer. The theory is that with enough brass instruments, the water condensed in the tubes after resting for a longer period of time will cause a bit of a pop when flushed out, increasing the dynamics of the breath sound while also lending to the concept of water in the movement. Ideally it will mimic the sound of a whale breathing after breaking the surface.

The water gives way to the air and the return of the ocean drum. Birds are brought forth by the use of water whistles in the percussion, short figures in the violins, and the “sea-gull effect” in the cello. After some time, a flock of birds is formed by the strings using the same techniques plus dampened strings in the violin II, viola, and bass to sound like the wing beats of a large flock. This then dies off leaving the ocean drum to fade away. (see Figure 4.26 on page 40).

The musical score for measures 70-73 of *Tannin eth Oph (Whales and Birds)* features five staves: Vln. I, Vln. II, Vla., Vc., and Cb. The Vln. I staff has a melodic line starting with a dynamic of *pp* and a performance instruction 'ad libitum enter gradually'. The Vln. II, Vla., and Cb. staves play a rhythmic accompaniment of 'jeté and dampen strings' with dynamics ranging from *pp* to *ff*. The Vc. staff has a 'gliss.' instruction and a '1 player' instruction, with a 'seagull effect' annotation. The score concludes with 'exit individually' instructions for all parts.

Figure 4.26 *Tannin eth Oph (Whales and Birds)* measures 70-73 (Keller, 2016)

4.1.6 Adam (Mankind)

The sixth day is the last day of physical creations. As such all of the other movements play into its composition in terms of style. The sixth movement while a sonic climax to the previous five movements is not a recapitulation of their musical content. In addition, while the creation of insects and animals of the land are clear thematic points the true focus is on the creation of the first humans and their send-off into the sunset of the first day of their lives.

The movement starts in the style of the previous movement imitating of the sounds of insects as shown in Figure 4.27. The harp breaks this style with D Dorian triads, and a glissando. These chords are anticipatory of the next section to come. (see Figure 4.28 on page 41).

The percussion score for measures 1-5 of *Adam (Mankind)* is in 4/4 time. Percussion 1 features a 'Vibraslap' in the fourth measure with a dynamic of *mf*. Percussion 2 plays a rhythmic pattern of eighth notes labeled 'Frog Rasp' with a dynamic of *f*. Percussion 3 plays a rhythmic pattern of eighth notes labeled 'Maracas spin/stir' with dynamics of *pp* and *f*.

Figure 4.27 *Adam (Mankind)* measures 1-5 (Keller, 2016)

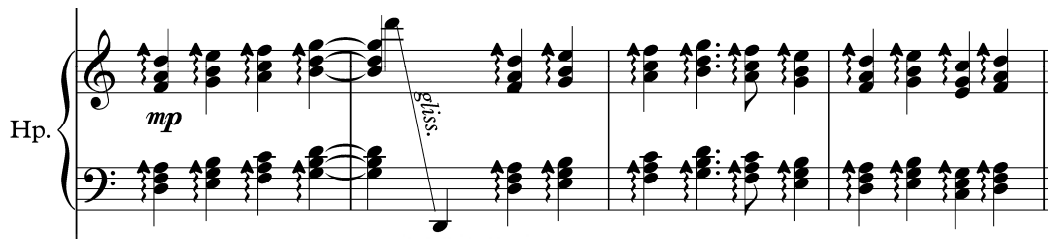


Figure 4.28 *Adam (Mankind)* measures 7-10 Harp (Keller, 2016)

The strings then begin a staggered entrance with the timpani heralding the transition. The harp chords are picked up by the horns and strings in measure 14. (see Figure 4.29).



Figure 4.29 *Adam (Mankind)* measures 7-10 Horns (Keller, 2016)

The harmony is placed over a pedal G in the string basses. In measure 22 the strings set up a transition to G Dorian however when it arrives in measure 26 the pedal tone is moved to C and the B \flat is only used as an avoidance of the tritone between B and F in the harmony and B \natural is present otherwise. This scale of C, D, E, F, G, A, B \flat , and B \natural could be labeled a C Dominant Bebop scale though it is not used in the typical way of being linked to a dominant seventh chord. (see Figure 4.30 on page 42).

Figure 4.30 *Adam (Mankind)* measures 26-29 (Keller, 2016)

From here the piece modulates to C Major via a common chord of F and then proceeds to an authentic cadence in measures 34-35. This cadence is noteworthy in that the F of the dominant chord is carefully absent from it which purposely robs it of some of its functional strength. (see Figure 4.31).

Figure 4.31 *Adam (Mankind)* measures 34-35 (Keller, 2016)

After this climax the piece grows quiet with the strings being at half force. A Flute and Clarinet duet paints the scene of the formation of man. The brass literally give breath through their instruments as if to the human form. The resting strings rejoin and an English Horn solo depicts the first moments of the man waking up and is then joined by the woodwind solos. The brass join in a measure 65 with an *accelerando*. (see Figure 4.32).

The image shows a musical score for measures 65-70 of 'Adam (Mankind)'. The score is arranged in six staves: four Horns (Hn. 1-4) and two Trumpets (Tpt. 1-2). The Horns and Trumpets 1 parts are in treble clef, while Trumpet 2 is in bass clef. The music begins in measure 65 with a rest for all instruments. In measure 66, the Horns and Trumpets 1 enter with a melody starting on a half note G4, moving to A4, B4, and C5. The dynamics are marked *mf* in measure 66 and *f* in measure 67. The Horns 2 and 4 parts enter in measure 67 with a sustained chord, marked *mf* in measure 67 and *f* in measure 68. The Trumpets 2 part enters in measure 67 with a sustained chord, marked *mf* in measure 67 and *f* in measure 68. The Trumpets 1 part has a melodic line starting in measure 65, marked *p* in measure 65 and *mf* in measure 66, ending in measure 68. The score concludes in measure 70 with a final chord for all instruments, marked *f*.

Figure 4.32 *Adam (Mankind)* measures 65-70 Horns and Trumpets (Keller, 2016)

Instead of a build to a final climax, after the with the formation of man, the strings take over and the 1st Violin holds a more melancholic line which fades away to just the first violin and basses holding F and C. (see Figure 4.33 on page 44).

The musical score for strings in measures 86-95 of *Adam (Mankind)* features five staves: Vln. I, Vln. II, Vla., Vc., and Cb. Vln. I plays a melodic line with slurs. Vln. II, Vla., and Vc. enter with a four-note chord marked *pp*. Cb. has a glissando line marked *gliss.*

Figure 4.33 *Adam (Mankind)* measures 86-95 Strings (Keller, 2016)

This is following the text in Genesis chapter 2 in that while everything else including man has been created the Earth is still not finished; woman must be created for God to declare it good. The glockenspiel signals the first moments of her formation with a four-note circle of fifths progression alluding to the opening progression of fifths in the first movement as well as the orchestration of stars in the fourth movement. (see Figure 4.34).

The musical score for Glockenspiel in measures 86-95 of *Adam (Mankind)* shows a four-note circle of fifths progression marked *p*.

Figure 4.34 *Adam (Mankind)* measures 86-95 (Keller, 2016)

After this the strings glissando into an A minor triad, the horns sound, and with the trumpet picking up the previous theme from the violin the climax that is the arrival of the first woman unfolds. The music exudes completeness as three previous themes are brought together. Accompanying the trumpets, the horns hold the melody from the accelerando in measures 65-69. (see Figure 4.35 and Figure 4.37 on page 45).

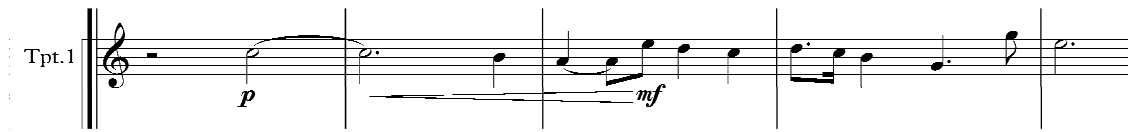


Figure 4.35 *Adam (Mankind)* measures 65-69 (Keller, 2016)

The bass line found in the low brass is based on an augmentation of the horn lines at the presentation of the larger animals starting in measure 14-15. (see Figures 4.36 below and Figure 38 on page 46).

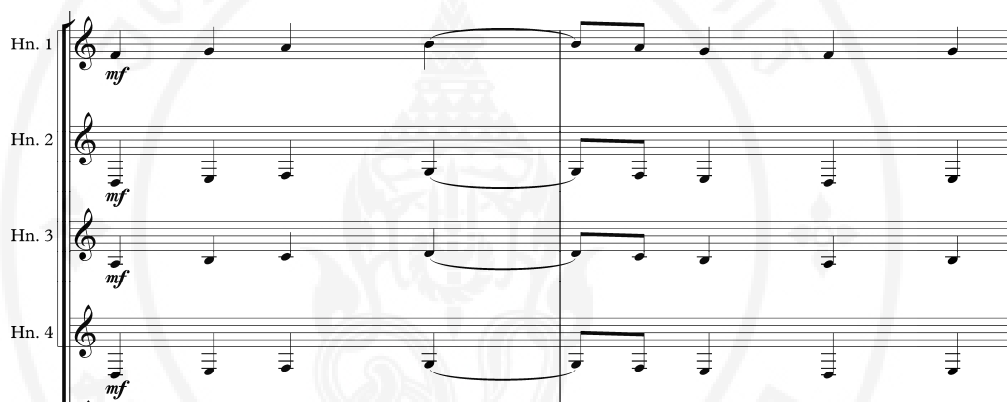


Figure 4.36 *Adam (Mankind)* measures 14-15 (Keller, 2016)



Figure 4.37 *Adam (Mankind)* measures 102-107 Brass (Keller, 2016)

After this climactic convergence of thematic materials, the orchestra prepares for the final cadence. With an introduction of $B\flat$ in measure 105 the bass line that has been cycling through F to G to A for a few sections finally moves on in what would appear to be an F Major scale. (see Figure 4.38).



Figure 4.38 *Adam (Mankind)* measures 102-107 bass line (Keller, 2016)

However, right after this joyous climactic moment a clear five measures of D natural minor are presented and finished with a D major chord in measure 112. (see Figure 4.39).

Figure 4.39 *Adam (Mankind)* measures 108-112 (Keller, 2016)

After this the final cadence is set up by a pedal D major chord in the string and woodwinds while the brass progress through a D major triad, to E^7/D , Bm^6 , to finally A^7 and a resolution to D major triad. This is the first perfect authentic cadence

including a dominant seventh chord in the entire work and serves as the musical equivalent of completing the physical creation of the entire world. (see Figure 4.40).

Figure 4.40 *Adam (Mankind)* measures 112-118 (Keller, 2016)

4.1.7 Shabath (Rest)

The seventh and final movement is the only movement is simply a short period of rest at the end of the entire work in reference to the rest taken by God at the end of His work. The tempo is “vivo” to signify all the life created on the previous days, but is also given direction with the sixteenth note equaling a quarter note rest. (see Figure 4.41).

$$\text{Vivo } \text{♪} = \text{♪}$$

Figure 4.41 *Shabath (Rest)* Tempo (Keller, 2016)

This tempo is open to interpretation by the conductor but the musical notation makes a simple gesture of energetic life going at a much slower speed while

at rest. Many who hold the biblical accounts to be sacred and therefore the foundation of their beliefs follow the day of rest as described in *Genesis* chapter 2.

The instruments themselves are given a long fermata over a rest which simply gives the conductor freedom to interpret exactly how long the pause at the end should be. (see Figure 4.42).

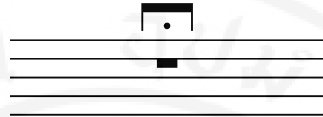


Figure 4.42 *Shabath (Rest)* Long fermata (Keller, 2016)

The single measure of unmeasured rest is in no way a comment on the concept of silence and our lack thereof as in John Cage's *4'33"*, but is instead a direct translation of the biblical account of God resting it gives the audience and performers a few moments to reflect on God's creation as well as the piece itself. As to what exactly rest constituted on the seventh day is left up to the audience to imagine.

CHAPTER V CONCLUSION

5.1 Conclusion

The success of this analysis is much in line with the perceived success of the symphonic work *The Genesis* by Max Keller in giving a musical experience that is understandable on the surface as being closely aligned with the creation in the *Book of Genesis*. Both the compositional and theological reasoning behind the music have been explored.

5.1.1 The Music of *The Genesis*

As a sacred work, *The Genesis by Max Keller* fits in a historical tradition of Western music directly depicting text from the Bible as composers including Brahms, Haydn, Schoenberg, and numerous others have. While the choice of the specific narrative of creation found in the Bible has been shown to have been taken up and formed into seminal works by previous artists it should be noted that the majority of these works rely on either visual or text based depictions, in the form of lyrics for musical examples, making the decision to utilize only sounds created by the symphonic orchestra as the primary conveyer of the theological ideas presented in *The Genesis* unique.

The organization of the work being programmatic and strictly centered around the days of creation and their recorded context is also unique when compared to the works of Haydn which expands them over multiple movements or that of Michelangelo who moved the order around in his Sistine Chapel frescos. Most other works also include additional materials not recorded in the Bible itself, as is the case of *Paradise Lost*. While there were, choices made in *The Genesis* for the sole purpose of musical aesthetic they are in no way intended to add to the drama or teleological narrative given in the *Book of Genesis*. This strictness in concept heavily influenced the structure and formation of each movement and the work as a whole. Not conforming to a traditional musical structure allowed the music to be shaped around

the events described in the text, which gives a more direct emphasis to the text and makes the musical expressions of specific moments easier for an audience to recognize.

5.1.2 The Theology of *The Genesis*

From a theological, and philosophical, standpoint all art is important in the way that it shapes its audience's understanding of the subject presented. Haydn's *The Creation* is analyzed to this day due to how it shaped the conversation about of chaos. *The Genesis* also delves into the depiction of chaos, but also differentiates from most other renderings of light in that the chaotic state of the world is not dissipated at the moment that light enters.

The most striking difference in *The Genesis* from most other works of art is the climactic point on the sixth day. Most works of art including those of Haydn and Milton, and even scholarly texts in the past have highlighted the creation of the man. Haydn in his oratorio, though he mentions the creation of man and woman, does not give the woman an equal blessing or responsibility as man. As shown in the methods portion of this analysis both were equally blessed and equally responsible, and creation is incomplete, in fact not good, without the final living creation, that being woman. The emphasis of woman representing the completion and culmination of the sixth day is one that will hopefully draw the audience to re-examine the imbalance of importance that is often given to the man and view the relationship instead as an equal partnership.

5.1.3 Personal experience from the project

As a composer of Christian faith this project held many unique interests for me. To date it is the longest largest scale work that I have created. With that many lessons in the logistics of the orchestra as well as composing for it have been learned. Initially I envisioned a much more engineered approach to the movements. One that would lend itself to more pre-compositional techniques to aid with the volume of material expected. However, once I came to terms with the fact that the second movement was not working at all I abandoned the original rigidity of the concepts and allowed myself to write more intuitively. I feel now this has given me more

confidence in my ability while also helping to bring out my own voice from the material as opposed to just my rational thoughts.

From a theological standpoint, the research into the material I feel has been invaluable to me. The study of translation and the underlying meanings in the original words has given me much to think about in the future. The two most significant theological ideas for me from this project were that of the state of the world after light is created, something I had thought about quite a bit before, and the partnership of man and woman. For quite a while I struggled with if I should give so much emphasis musically to the woman or if I should even just use the first chapter of Genesis and just try to musically realize “them” instead of their individual creations. However, once I was convinced of the importance of woman in the creation narrative I became quite worried about how to write such a climax. In fact, I had been worried about a final climax to the entire work for a couple of months. The concept of woman being a culmination, even though a daunting concept at first, ended up leading to the music I came up with. Using previous harmonies for the creation of man and then starting a new melodic line over it only to bring in more sections from the work later seemed like a perfect conclusion to the work. Now what I feared is one of if not my favorite moment in the entire work. I feel that is the most important thing for me to take away from this entire project. What seemed daunting and a true cause of fear, anxiety, doubt, and frustration is turned into something beautiful to enjoy after critique, perseverance, and hard work.

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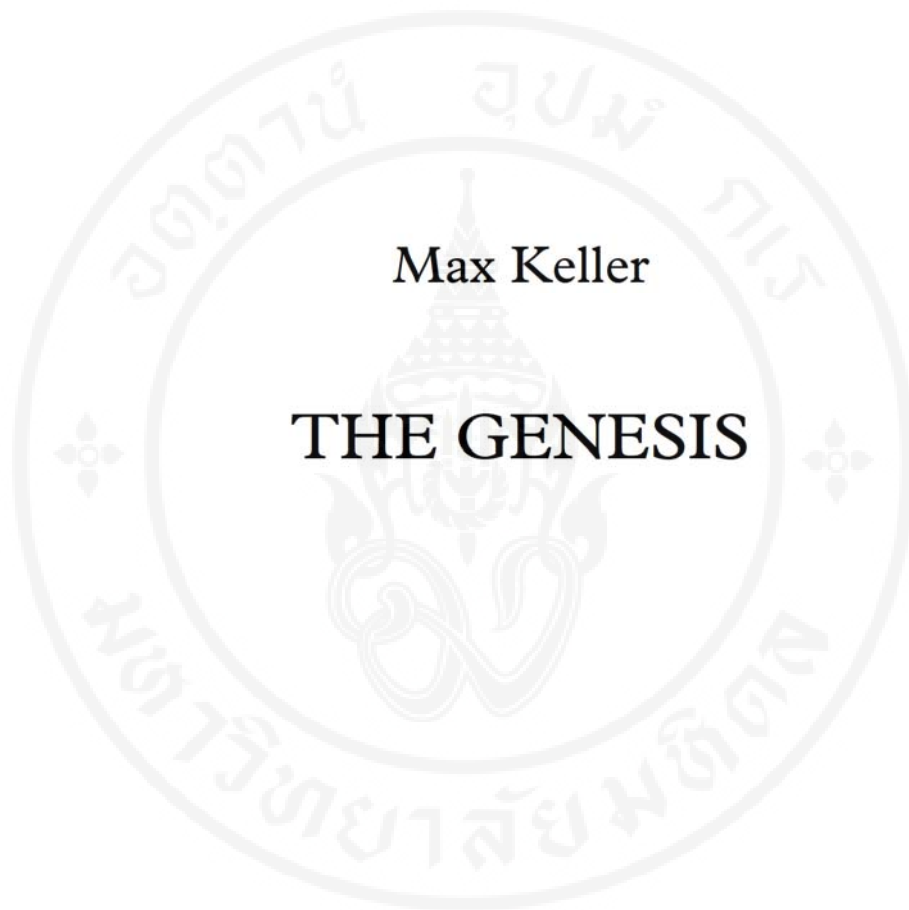
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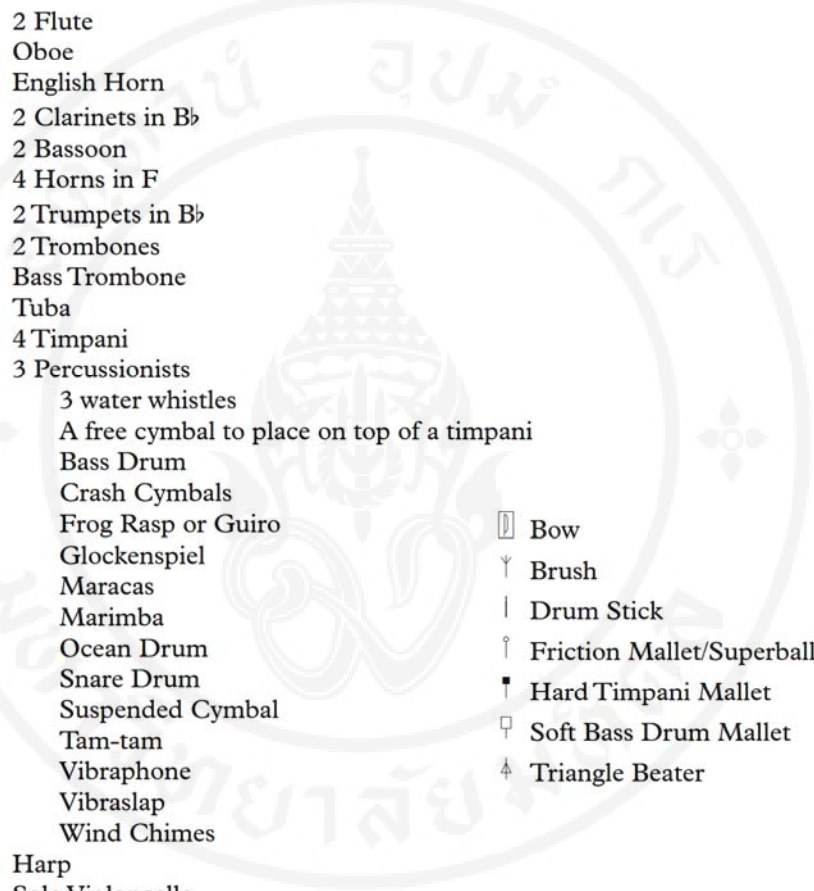









A copy of the full score of The Genesis by Max Keller. It is reprinted here with permission by the composer for the reader to further study the orchestration and musical interpretation.



Max Keller

THE GENESIS

- 
- 2 Flute
 - Oboe
 - English Horn
 - 2 Clarinets in B \flat
 - 2 Bassoon
 - 4 Horns in F
 - 2 Trumpets in B \flat
 - 2 Trombones
 - Bass Trombone
 - Tuba
 - 4 Timpani
 - 3 Percussionists
 - 3 water whistles
 - A free cymbal to place on top of a timpani
 - Bass Drum
 - Crash Cymbals
 - Frog Rasp or Guiro
 - Glockenspiel
 - Maracas
 - Marimba
 - Ocean Drum
 - Snare Drum
 - Suspended Cymbal
 - Tam-tam
 - Vibraphone
 - Vibraslap
 - Wind Chimes
 - Harp
 - Solo Violoncello
 - Violin I
 - Violin II
 - Viola
 - Violoncello
 - Contrabass with low C extension
-  Bow
 -  Brush
 -  Drum Stick
 -  Friction Mallet/Superball Mallet
 -  Hard Timpani Mallet
 -  Soft Bass Drum Mallet
 -  Triangle Beater

1. Tohu (Confusion)

¹In the beginning God created the heaven and the earth.

² And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.

³ And God said, Let there be light: and there was light.

⁴ And God saw the light, that it was good: and God divided the light from the darkness.

⁵ And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day (Genesis 1:1-5, KJV)

Andante

Flute 1, 2

Oboe

English Horn

Clarinet in Bb 1, 2

Bassoon 1, 2

Horn in F 1, 3

Horn in F 2, 4

Trumpet in Bb 1, 2

Trombone 1, 2

Bass Trombone

Tuba

Timpani

Percussion I

Percussion 2

Percussion 3

Harp

Violin I

Violin II

Viola

Violoncello

Contrabass

Andante

p *mf* *mp* *p* *mf* *p* *mf*

Bass Drum

p *ff* *mp* *mf*

Tam-tam

p *mp* *mf*

div. 4
mute
pp

div. 4
mute
pp

div. 4
mute
pp

div. 4
mute
pp

Musical score for Percussion and Strings. The percussion part includes Timp., Perc. 1, Perc. 2, and Perc. 3. The string part includes Vln. I, Vln. II, Vla., Vc., and Cb. The score shows various dynamics such as *mp*, *mf*, *p*, *pp*, and *mf*. Percussion 1 includes instructions for *Suspended Cymbal* and *To Crash Cym.* Percussion 3 includes *div. 4* and *mute*. The string parts feature complex rhythmic patterns and dynamics.

Musical score for Percussion and Strings, featuring a section titled "Free Meter" and "Similar Style ad. Labyrinth". The percussion part includes Timp. and Bass Drum. The string part includes Vln. I, Vln. II, and Vla. The score is divided into three measures, each with a tempo marking of $\text{♩} = 100$. Measure 1 is marked "Free Meter" and "Similar Style ad. Labyrinth". Measure 2 includes a "Timp-tam" instruction. Measure 3 includes a "Bass Drum" instruction. Dynamics range from *mf* to *pp* and *f*.

This page of a musical score, page 7, features a variety of instruments. The woodwind section includes Flute 1 (Fl. 1), Oboe (Ob.), English Horn (Eng. Hn.), Clarinet 1 (Cl. 1), Bassoon 1 (Bsn. 1), Horn 1 (Hn. 1), Horn 2 (Hn. 2), Trumpet 1 (Tpt. 1), Trombone 1 (Tbn. 1), Baritone Trombone (B. Tbn.), and Tuba (Tba.). The percussion section includes Timpani (Timp.), Bass Drum (B. D.), Suspended Cymbal (Cym.), and Tom-tom (T.-t.). The string section includes Violin I (Vln. I), Violin II (Vln. II), Viola (Via.), Violoncello (Vc.), and Contrabass (Cb.). The score shows dynamic markings such as *p*, *f*, *mf*, *ff*, *pp*, and *fp*. A large, faint watermark of Mahidol University is visible in the background of the score.

2. Raqia (Firmament)

⁶ And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters.

⁷ And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it was so.

⁸ And God called the firmament Heaven. And the evening and the morning were the second day
(Genesis 1:6-8, KJV)

Flute 1, 2

Oboe

English Horn

Clarinet in B \flat 1, 2

Bsn. 1 - Bsn. 2

Horn in F 1, 3

Horn in F 2, 4

Trumpet in B \flat 1, 2

Trombone 1, 2

Bass Trombone

Tuba

Timpani

Percussion 1
Snare Drum

Percussion 2
Bass Drum

Percussion 3
Suspended Cymbal

Harp

Violin I

Violin II

Viola

Violoncello

Contrabass

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Fl. 1, 2

Ob.

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Trombone 1, 2

B. Tbn.

Tba.

Timp.

S. D.

Hp.

Vln. I

Vln. II

Via.

Vc.

Cb.

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12

13

Fl. 1, 2 *f* *p* *f* *mf* *mp*

Ob. *f* *p* *f* *mf* *mp*

Eng. Hn. *f* *p* *f* *mf* *mp*

Cl. 1, 2 *f* *p* *f* *mf* *mp*

Bsn. 1, 2 *f* *p* *f* *mf* *mp*

Hn. 1, 3 *f* *p* *f*

Hn. 2, 4 *f* *p* *f*

Tpt. 1, 2 *f* *p* *f*

Trombone 1, 2 *f* *p* *f*

B. Tbn. *f* *p* *f*

Tba. *f* *p* *f*

Timp. *f* *p* *f*

S. D. *f* *p* *f*

B. D. *pp* *mp* *pp*

Harp *f* *mf* *mp*

Vln. I *f* *p* *f*

Vln. II *f* *p* *f*

Vla. *f* *p* *f*

Vcl. *f* *p* *f*

Cb. *f* *p* *f*

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Musical score for measures 19-23. The score includes parts for English Horn (Eng. Hn.), B. D. (Bass Drum), Cym. (Cymbal), Hp. (Harp), and Cb. (Contra Bass). The B. D. part features a 'scrape' effect and a 'To Crash Cym.' instruction. The Hp. part includes 'gliss.' markings and a 'pp' dynamic. The Cb. part has a 'mp' dynamic. A double bar line is present at the end of measure 23.

Musical score for measures 24-28. The score includes parts for Fl. 1, 2; Ob.; Eng. Hn.; Cl. 1, 2; Bsn. 1, 2; Timp.; S. D.; B. D.; Hp.; Vln. I; Vln. II; Vla.; Vc.; and Cb. The Fl. 1, 2 part has a first ending bracket and a 'mp' dynamic. The Cl. 1, 2 part has a first ending bracket and a 'p' dynamic. The Bsn. 1, 2 part has a second ending bracket and a 'p' dynamic. The Hp. part includes 'gliss.' markings and a 'mf' dynamic. The Vln. I and Vln. II parts have a 'p' dynamic. The Vc. part has a 'mp' dynamic. The Cb. part has a 'mf' dynamic. A 'Copyright by Mahidol University' watermark is visible at the bottom.

Musical score for measures 34-39. The score includes parts for Fl. 1, 2; Ob.; Eng. Hn.; Cl. 1, 2; Bsn. 1, 2; Hn. 1, 3; Hn. 2, 4; Tpt. 1, 2; Trombone 1, 2; B. Tbn.; Tbn.; Timp.; S. D.; Vln. I; Vln. II; Vla.; Vc.; and Cb. The score features various dynamics such as *p*, *ff*, and *pp*, and includes performance markings like *a2* and *pp*.



Musical score for measures 40-44. The score includes parts for Ob.; Cl. 1, 2; Hn. 1, 3; Timp.; and S. D. The score features dynamics such as *p* and *pp*, and includes performance markings like *1. open* and *1.*.

51

Fl. 1, 2

Ob.

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Trombone 1, 2

B. Tbn.

Tba.

Tymp.

S. D.

B. D.

Vln. I

Vln. II

Vla.

Vcl.

Cb.

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3. Peri (Fruit)

⁹ And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so.

¹⁰ And God called the dry land Earth; and the gathering together of the waters called the Seas: and God saw that it was good.

¹¹ And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so.

¹² And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind: and God saw that it was good.

¹³ And the evening and the morning were the third day (Genesis 1:9-13, KJV)

Moderato $\text{♩} = 100$

Flute 1, 2

Oboe 1

English Horn

Clarinet in B \flat 1, 2

Bassoon 1, 2

Horn in F 1, 3

Horn in F 2, 4

Trumpet in B \flat 1, 2

Trombone 1, 2

Bass Trombone

Tuba

Timpani

Bass Drum

Percussion 1
Tam-tam

Percussion 2
Suspended Cymbal

Marimba

Harp

Violin I

Violin II

Viola

Violoncello

Contrabass

Musical score for measures 14-32. The score includes parts for Horns 1, 2, 3 and 4, Trumpets 1 and 2, Trombones 1 and 2, Baritone Trombone, Tuba, Timpani, Snare Drum (B.D.), Tom-tom (T.-t.), and Cymbals (Cym.). The music features a complex rhythmic pattern with frequent dynamic changes, including *ff*, *pp*, *f*, and *p*. The time signature changes from 2/4 to 3/4 and back to 2/4. A double bar line is present at the end of measure 32.

Musical score for measures 33-41. The score includes parts for Horns 1, 2, 3 and 4, Trumpets 1 and 2, Trombones 1 and 2, Baritone Trombone, Tuba, Timpani, Snare Drum (B.D.), Tom-tom (T.-t.), and Cymbals (Cym.). The music continues with complex rhythmic patterns and dynamic markings such as *ff*, *pp*, *f*, and *p*. A Marimba part is introduced in measure 39. The score concludes with a final measure in measure 41.

Musical score for measures 126-135. The score includes parts for Bsn. 1, 2; Hn. 1, 3; Hn. 2, 4; Tba.; Vln. I; Vln. II; Vla.; Vc.; and Cb. Dynamics range from *mf* to *f*. A double bar line is present at the end of measure 135.

Musical score for measures 136-145. The score includes parts for Fl 1, 2; Bsn. 1, 2; Hn. 1, 3; Hn. 2, 4; Tba.; Mar.; Hp.; Vln. I; Vln. II; Vla.; Vc.; and Cb. Dynamics range from *p* to *f*. The score concludes with a double bar line at the end of measure 145.

28

Fl 1, 2

Mar.

Hp.

Fl 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tbn.

Mar.

Hp.

Vln. II

Vla.

Musical score for measures 168-179. The score includes parts for Flute 1 & 2, Oboe 1, Clarinet 1 & 2, Bassoon 1 & 2, Horns 1, 3 and 2, 4, Trumpets 1 & 2, Tenor Trombone 1 & 2, Baritone Trombone, and Tuba. The string section includes Violin I, Violin II, Viola, Violoncello, and Contrabass. The score features various dynamics such as *mf*, *pp*, and *p*, and includes performance instructions like *arco*. A large watermark is visible across the score.



Musical score for measures 180-184, focusing on the string section: Violin I, Violin II, Viola, Violoncello, and Contrabass. The score shows a rhythmic pattern with dynamics ranging from *mf* to *f*. A large watermark is visible across the score.

186 a2

Fl 1, 2 *mf* *f*

Ob. 1 *mf* *f*

Eng. Hn. *mf* *f*

Cl. 1, 2 *mf* *f*

Bsn. 1, 2 a2 a2 *mf* *f*

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tba.

Timp. *mf*

B. D. *mf*

T-t.

Mar. *mf* *ff*

Hp.

Vln. I

Vln. II

Vla.

Vc. *div*

Cb.

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Musical score for orchestra, measures 197-200. The score is arranged in a standard orchestral layout with the following parts from top to bottom: Flute 1 & 2 (Fl 1, 2), Oboe 1 (Ob. 1), English Horn (Eng. Hn.), Clarinet 1 & 2 (Cl. 1, 2), Bassoon 1 & 2 (Bsn. 1, 2), Timpani (Timp.), Bass Drum (B. D.), Maracas (Mar.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Contrabass (Cb.).

Measure 197: The woodwinds and strings play a rhythmic pattern. The Flutes, Oboe, and Bassoons have a melodic line. The Clarinets and English Horns play a supporting part. The strings play a steady accompaniment.

Measure 198: Similar to measure 197, with some dynamics changes. The strings continue their accompaniment.

Measure 199: The woodwinds and strings continue their parts. The strings play a steady accompaniment.

Measure 200: The woodwinds and strings continue their parts. The strings play a steady accompaniment. The score ends with a double bar line and a repeat sign.

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4. Kokab (Stars)

¹⁴ And God said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years:

¹⁵ And let them be for lights in the firmament of the heaven to give light upon the earth: and it was so.

¹⁶ And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also.

¹⁷ And God set them in the firmament of the heaven to give light upon the earth,

¹⁸ And to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good.

¹⁹ And the evening and the morning were the fourth day

(Genesis1:14-19, KJV)

Andante ♩ = 80

Flute 1, 2

Oboe

English Horn

Clarinet in Bb 1, 2

Bassoon 1, 2

Horn in F 1, 3

Horn in F 2, 4

Trumpet in Bb 1, 2

Trombone 1, 2

Bass Trombone

Tuba

Timpani

Percussion 1
Glockenspiel
p

Percussion 2
Wind Chimes
To Tam
i.e.
mf

Percussion 3
Vibraphone
motor off
p

Harp

Violin I

Violin II

Viola

Violoncello

Contrabass

Andante ♩ = 80

36

Musical score for page 36, featuring woodwinds, brass, strings, and percussion. The score is arranged in a standard orchestral layout with staves for each instrument. The woodwind section includes Flutes 1 & 2, Oboe 1, English Horn, Clarinets 1 & 2, Bassoons 1 & 2, Horns 1, 2, & 3, Horns 2, 3, & 4, Trumpets 1 & 2, Trombones 1 & 2, Baritone Trombone, and Tuba. The brass section includes Tuba and Timp. The percussion section includes Glockenspiel, Wood Chimes, and Vibraphone. The string section includes Violin I, Violin II, Viola, Violoncello, and Contrabass. The score includes dynamic markings such as *pp*, *mp*, and *pp*, and performance instructions like *mute* and *3*. A large watermark for Mahidol University is visible in the background.

38

Musical score for page 38, featuring various instruments including Flutes, Oboe, English Horn, Clarinets, Bassoons, Horns, Trumpets, Trombones, Tuba, Timpani, Glockenspiel, Cymbals, Vibraphone, Harp, Violins, Viola, Violoncello, and Contrabass. The score includes dynamic markings such as *ff*, *f*, *mf*, *p*, and *mp*, and performance instructions like *fp*, *ff*, *p*, *f*, *mf*, and *p*. The score is divided into two systems, with the first system starting at measure 31. The instruments are arranged in a standard orchestral layout, with Flutes and Oboe at the top, followed by Clarinets, Bassoons, Horns, Trumpets, Trombones, Tuba, Timpani, Glockenspiel, Cymbals, Vibraphone, Harp, Violins, Viola, Violoncello, and Contrabass at the bottom. The score includes various musical notations such as notes, rests, and dynamic markings.

This page of a musical score, numbered 39, features a variety of instruments. The woodwind section includes Flute 1 & 2 (Fl. 1, 2), Oboe 1 (Ob. 1), English Horn (Eng. Hn.), Clarinet 1 & 2 (Cl. 1, 2), Bassoon 1 & 2 (Bsn. 1, 2), Horns 1, 2, 3 & 4 (Hn. 1, 2, 3, 4), Trumpet 1 & 2 (Tpt. 1, 2), Trombone 1 & 2 (Tbn. 1, 2), Baritone Trombone (B. Tbn.), and Tuba. The percussion section includes Timpani (Timp.), Glockenspiel (Glock.), Cymbals (Cym.), and Vibraphone (Vib.). The string section includes Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Contrabass (Cb.). The score begins at measure 41 with a key signature change to C major, indicated by a 'C' in a box. The Flute 1 & 2 part has a melodic line starting in measure 41 with a *pp* dynamic. The Bassoon 1 & 2 part has a low, sustained note starting in measure 41 with a *pp* dynamic. The Horns 1, 2, 3, and 4 parts have sustained notes starting in measure 41 with a *pp* dynamic. The Trombone 1 & 2, Baritone Trombone, and Tuba parts also have sustained notes starting in measure 41 with a *pp* dynamic. The Glockenspiel part has a melodic line starting in measure 41 with a *pp* dynamic. The Vibraphone part has a sustained chord starting in measure 41 with a *p* dynamic. The Violin I part has a sustained note starting in measure 41 with a *pp* dynamic. The Violin II part has a sustained note starting in measure 41 with a *pp* dynamic. The Viola part has a sustained note starting in measure 41 with a *pp* dynamic. The Violoncello part has a sustained note starting in measure 41 with a *pp* dynamic. The Contrabass part has a sustained note starting in measure 41 with a *pp* dynamic. The score ends with a *pp* dynamic marking at the bottom.

40

50

Fl. 1, 2

Ob. 1

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tba.

Timp.

Glock.

Cym.

Vib.

Hp.

Vln. I

Vln. II

Vla.

Vc.

Cb.

p

mf

pp

1.

3

3

42

Musical score for orchestra and strings, measures 60-64. The score is arranged in systems for various instruments. The woodwind section includes Flutes 1 & 2, Oboe 1, English Horn, Clarinets 1 & 2, Bassoons 1 & 2, Horns 1, 2 & 3, Horns 2 & 4, Trumpets 1 & 2, Trombones 1 & 2, Bass Trombone, and Tuba. The percussion section includes Timpani, Glockenspiel, Cymbals, and Vibraphone. The keyboard section includes Harp. The string section includes Violins I and II, Viola, Violoncello, and Contrabass. The score features dynamic markings such as *p*, *pp*, and *mf*. A large, faint watermark of Mahidol University is visible in the background of the score.

5. Tannin eth Oph (Whales and Birds)

²⁰ And God said, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven.

²¹ And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good.

²² And God blessed them, saying, Be fruitful, and multiply, and fill the waters in the seas, and let fowl multiply in the earth.

²³ And the evening and the morning were the fifth day. (Genesis 1:20-23, KJV)

Adagio ♩ = 60

Flute 1, 2

Oboe 1

Clarinet in Bb 1, 2

Bassoon 1, 2

Horn in F 1, 3

Horn in F 2, 4

Trumpet in Bb 1, 2

Trombone 1, 2

Bass Trombone

Tuba

Adagio ♩ = 60

Timpani 1

Percussion 1
Timpani with cymbal placed bell down on the head

Percussion 2

Percussion 3
Ocean Drum
p *f* *p* *f* *p* *f* *p* *f*

Harp

Solo Violoncello

Adagio ♩ = 60

Violin I

Violin II

Viola

Violoncello

Contrabass

The musical score is arranged in a standard orchestral format. The woodwind section (Flutes, Oboes, Clarinets, Bassoon, Horns, Trumpets, Trombones, Tuba) and strings (Violins I & II, Viola, Violoncello, Contrabass) are in the upper staves. The percussion section (Timpani, Snare Drum, Tam-tam, Mallets) is in the lower staves. The harp is positioned between the percussion and strings. The score includes various dynamics (p, mf, ff, pp) and performance instructions such as 'Friction Mallet', 'Snare Drum snares off', and 'con sord.'. A large watermark of Mahidol University is visible in the background.

46

Musical score for orchestra, page 46. The score includes parts for Fl. 1, 2; Ob. 1; Cl. 1, 2; Bsn. 1; Hn. 1, 3; Hn. 2, 4; Tpt. 1, 2; Tbn. 1, 2; B. Tbn.; Tbn.; Timp.; Perc. 1; Perc. 2; T-t.; Perc.; S. Vc.; Vin. I; Vin. II; Vla.; Vc.; and Cb. The score is marked with a 'B' section and includes dynamic markings such as *p*, *mf*, *f*, *mp*, and *ff*. A performance instruction for Perc. 1 reads: "Draw friction mallet along solo string".

50

E

Fl. 1, 2
Ob. 1
Cl. 1, 2
Bsn. 1
Hn. 1, 3
Hn. 2, 4
Tpt. 1, 2
Tbn. 1, 2
B. Tbn.
Tba.

E

Whist. *p*
Whist.
Whist.
T. D. *f* *p* *f*
Hp.
S. Vc. *f* "scapall effect" *f* *ad libitum* enter gradually

E

Vln. I *ad libitum* enter gradually *1 player* jété and dampen strings *pp* *ff* exit individually *all*
Vln. II *ad libitum* enter gradually *1 player* jété and dampen strings *pp* *ff* exit individually *all*
Vla. *ad libitum* enter gradually *1 player* jété and dampen strings *p* *ff* exit individually *all*
Vc. *ad libitum* enter gradually *1 player* "scapall effect" jété and dampen strings *p* *ff* exit individually *all*
Cb. *ad libitum* enter gradually *1 player* "scapall effect" jété and dampen strings *p* *ff* exit individually *all*

Musical score for page 51, featuring various instruments including Flutes, Oboe, Clarinets, Bassoon, Horns, Trumpets, Trombones, Whistles, Timpani, Harp, Violins, Viola, Violoncello, and Contrabass. The score includes dynamic markings such as *p*, *f*, *pp*, and *mf*, and performance instructions like *1 player*. A large watermark of Mahidol University is visible in the background.

5. Adam (Mankind)

²⁴ And God said, Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind: and it was so.

²⁵ And God made the beast of the earth after his kind, and cattle after their kind, and every thing that creepeth upon the earth after his kind: and God saw that it was good.

²⁶ And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.

²⁷ So God created man in his own image, in the image of God created he him; male and female created he them.

²⁸ And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.

²⁹ And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.

³⁰ And to every beast of the earth, and to every fowl of the air, and to every thing that creepeth upon the earth, wherein there is life, I have given every green herb for meat: and it was so.

³¹ And God saw every thing that he had made, and, behold, it was very good. And the evening and the morning were the sixth day. (Genesis 1:24-31, KJV)

Adagio ♩ = 60

Flute 1, 2

Oboe

English Horn

Clarinet in B♭ 1, 2

Bassoon 1, 2

Horn in F 1, 3

Horn in F 2, 4

Trumpet in B♭ 1, 2

Trombone 1, 2

Bass Trombone

Tuba

Timpani G, A, C, D

Percussion 1

Percussion 2 Frog Rasp *f*

Percussion 3 Maracas spin/stir *pp* *f* Vibraslap *mf*

Harp EBF#GAA1 B#CDD1 *mp*

Adagio ♩ = 60

Violin I

Violin II

Viola

Violoncello

Contrabass

Fl. 1, 2

Ob. 1

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Trpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tba.

Tymp.

Rt.

Gro.

Mrcs.

Hp.

Vln. I

Vln. II

Vla.

Vc.

Cb.

p *mf* *f* *ff*

To Sus. Cym.

Suspended Cymbal

To B.D.

To Crash Cym.

To Glock.

pp *mf* *ff*

div.

56

Fl. 1, 2
Ob. 1
Eng. Hn.
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 3
Hn. 2, 4
Tpt. 1, 2
Tbn. 1, 2
B. Tbn.
Tbn.
Timp. D-F
Cym.
Gro.
Mrcs.
Hp.
Vln. I
Vln. II
Vla.
Vc.
Cb.

The musical score for page 56 includes parts for Flutes 1 and 2, Oboe 1, English Horn, Clarinets 1 and 2, Bassoons 1 and 2, Horns 1, 2, 3, and 4, Trumpets 1 and 2, Tenors 1 and 2, Baritone Trombone, Trombone, Timpani (D-F), Cymbal, Gong, Mridangam, Harp, Violins I and II, Viola, Violoncello, and Contrabass. The woodwind and string sections feature complex rhythmic patterns and dynamics, while the brass and percussion parts are more sparse.

58

Fl. 1, 2
Ob. 1
Eng. Hn.
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 3
Hn. 2, 4
Tpt. 1, 2
Tbn. 1, 2
B. Tbn.
Tba.
Timp.
Cym.
B. D.
Mcs.
Hp.
Vln. I
Vln. II
Vla.
Vc.
Cb.

mf
mf
mf
mf
mf
f
p
ff
p
pp
tutti
pp

This page contains a musical score for measures 26 through 31. The instruments listed on the left are: Fl. 1, 2; Ob. 1; Eng. Hn.; Cl. 1, 2; Bsn. 1, 2; Hn. 1, 3; Hn. 2, 4; Tpt. 1, 2; Tbn. 1, 2; B. Tbn.; Tba.; Timp.; Cym.; B. D.; Mrcs.; Hp.; Vln. I; Vln. II; Vla.; Vc.; and Cb. The score includes various musical notations such as dynamics (e.g., *fp*, *f*, *ppia*), articulation (trills, slurs), and performance instructions (e.g., *div.* for *divisi*). The woodwinds and brasses play sustained notes with trills, while the strings play a rhythmic accompaniment. The harp features a melodic line with glissandi. A large, faint watermark of Mahidol University is visible in the background of the score.

60

28

Fl. 1, 2 *fp* *ff*

Ob. 1 *fp*

Eng. Hn.

Cl. 1, 2 *f*

Bsn. 1, 2 *f*

Hn. 1, 3 *mf* *ff*

Hn. 2, 4 *ff*

Tpt. 1, 2 *ff*

Tbn. 1, 2 *f*

B. Tbn. *f*

Tba. *f*

Timp. *fp* *f* *fp* *f* *fp* *f* *fp* *f*

Cym. Cymbals *f*

B. D. *f*

Mrcs.

Hp. *ppc.* *ppc.* *ppc.*

Vln. I *ff*

Vln. II *ff*

Vla. *f*

Vc. *f*

Cb. *f*

This page of the musical score, page 61, features a variety of instruments. The woodwind section includes Flutes 1 and 2, Oboe 1, English Horn, Clarinets 1 and 2, Bassoons 1 and 2, Horns 1, 2, 3, and 4, Trumpets 1 and 2, Trombones 1 and 2, Baritone Trombone, and Tuba. The percussion section includes Timpani, Cymbals, and Bass Drum. The string section includes Violins I and II, Viola, Violoncello, and Contrabass. The score is marked with dynamic levels such as *f*, *ff*, *fp*, *mp*, and *p*. It includes performance instructions like *tutti*, *div.*, and *arco*. A large, faint watermark of Mahidol University is visible in the background of the score.

62

37 *Adagio* ♩ = 60

Fl. 1, 2

Ob. 1

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tba.

Timp.

Cym.

T.-t.

Mrcs.

Hp.

Adagio ♩ = 60

Vln. I

Vln. II

Vla.

Vc.

Cb.

pp *p* *mf* *pp* *p* *mp* *pp* *p* *mp* *pp* *p* *mp* *pp* *p* *mp*

50

Fl. 1, 2 *pp*

Ob. 1

Eng. Hn.

Cl. 1, 2 *pp*

Bsn. 1, 2 *pp*

Hn. 1, 3 *a²* *Breath only* *p* *mf*

Hn. 2, 4 *a²* *Breath only* *p* *mf*

Tpt. 1, 2 *a²* *Breath only* *p* *mf*

Tbn. 1, 2

B. Tbn.

Tba. *Breath only* *p* *mf*

Timp.

Cym.

T.-t.

Mrcs.

Hp.

Vln. I *pp* *pp* *mp* *pp* *tutti*

Vln. II *pp* *pp* *mp* *pp* *tutti*

Vla. *pp* *pp* *mp* *pp* *tutti*

Vc. *pp* *pp* *mp* *pp* *tutti*

Cb. *pp* *pp* *mp* *pp* *tutti*

64

Andante $\text{♩} = 88$

Fl. 1, 2

Ob. 1

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tba.

Timp.

Cym.

T.-t.

Mrcs.

Hp.

Vln. I

Vln. II

Vla.

Vc.

Cb.

F-P, D-E

Andante $\text{♩} = 88$

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Musical score for orchestra, measures 73-82. The score includes parts for Flutes (Fl. 1, 2), Oboe (Ob. 1), English Horn (Eng. Hn.), Clarinets (Cl. 1, 2), Bassoons (Bsn. 1, 2), Horns (Hn. 1, 3; Hn. 2, 4), Trumpets (Tpt. 1, 2), Trombones (Tbn. 1, 2; B. Tbn.; Tbn.), Tuba (Tbn.), Timpani (Timp.), Cymbals (Cym.), Triangle (T.-t.), Maces (Mcs.), Harp (Hp.), Violins (Vln. I; Vln. II), Viola (Vla.), Violoncello (Vc.), and Contrabass (Cb.).

This page contains the musical score for page 67 of a symphony. The score is arranged in a standard orchestral format with the following parts from top to bottom:

- Fl. 1, 2
- Ob. 1
- Eng. Hn.
- Cl. 1, 2
- Bsn. 1, 2
- Hn. 1, 3
- Hn. 2, 4
- Tpt. 1, 2
- Tbn. 1, 2
- B. Tbn.
- Tba.
- Timp.
- Cym. (Cymbals)
- T.-t. (Triangle)
- Glock. (Glockenspiel)
- Hp. (Harp)
- Vln. I
- Vln. II
- Vla. (Viola)
- Vc. (Violoncello)
- Cb. (Contrabass)

The score features complex rhythmic patterns, particularly in the woodwinds and strings, with dynamic markings such as *ff* (fortissimo), *fp* (fortissimo piano), and *f* (forte). There are also performance instructions like *a2* (second octave) and *fp* (fortissimo piano) throughout the piece.

68

103

Fl. 1, 2

Ob. 1

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tba.

Timp. C-D, G-A

Cym.

T.-t.

Glock.

Hp.

Vln. I

Vln. II

Vla.

Vc.

Cb.

108

Fl. 1, 2

Ob. 1

Eng. Hn.

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 3

Hn. 2, 4

Tpt. 1, 2

Tbn. 1, 2

B. Tbn.

Tba.

Timp.

Cym.

T.-t.

Glock.

Hp.

Vln. I

Vln. II

Vla.

Vc.

Cb.

f *fp* *ff*

To Sus. Cym.

f *ff*

div.

EFEGAI
BCADI

G-G

G-G

70

This page of an orchestral score, numbered 70, features a variety of instruments. The woodwind section includes Flutes 1 & 2, Oboe 1, English Horn, Clarinets 1 & 2, Bassoons 1 & 2, Horns 1, 2, 3 & 4, Trumpets 1 & 2, Trombones 1 & 2, Bass Trombone, and Tuba. The percussion section consists of Timpani, Suspended Cymbal, Tom-tom, and Glockenspiel. The keyboard section includes Harp. The string section includes Violin I, Violin II, Viola, Violoncello, and Contrabass. The score is written in 4/4 time and includes dynamic markings such as *pp* and *ff*. A large, faint watermark of Mahidol University is visible in the background.

7. Shabath

(Rest)

¹Thus the heavens and the earth were finished, and all the host of them.

²And on the seventh day God ended his work which he had made; and he rested on the seventh day from all his work which he had made.

³And God blessed the seventh day, and sanctified it: because that in it he had rested from all his work which God created and made. (Genesis 2;1-3 KJV),

Vivo ♩ = 2

Flute 1, 2

Oboe

English Horn

Clarinet in B \flat 1, 2

Bassoon 1, 2

Horn in F 1, 3

Horn in F 2, 4

Trumpet in B \flat 1, 2

Trombone 1, 2

Bass Trombone

Tuba

Timpani

Percussion 1

Percussion 2

Percussion 3

Harp

Vivo ♩ =

Violin I

Violin II

Viola

Violoncello

Contrabass

BIOGRAPHY

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