A Symphonic Poem on Dante's Inferno and a study on Karlheinz Stockhausen and his effect on the trumpet

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A SYMPHONIC POEM ON DANTE’S \textit{INFERNO} AND
A STUDY ON KARLHEINZ STOCKHAUSEN AND HIS EFFECT ON THE TRUMPET

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agriculture and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Music

by
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Jackie
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ABSTRACT

The first portion of this dissertation is an original composition *A Symphonic Poem on Dante’s Inferno*. This symphonic poem is in three movements: I. *The Dream*, depicts Dante falling asleep and describes the beginning of the *Inferno*, II. *The Journey*, depicts Virgil and Dante walking towards the Gates of Hell, III. *Hell’s Depths*; explores Hell’s Gates, the Souls of Limbo and the Nine Circles of Hell. Dante realizes at the age of thirty-five that he has wandered into the Dark Wood of Error. As soon as he realizes his loss, Dante lifts his eyes and sees the first light, lighting the edges of a little hill (The Mount of Joy). This is a glimpse into Dante’s opening dream. In this composition the text does not begin until movement III, which is the point on this journey where Dante and Virgil reach the Gates of Hell. In addition to an orchestra there is also a chorus of forty singers. The chorus only appears in the final movement. This symphonic poem is not meant to be a direct depiction of Dante’s vision. Instead a combination of Dante’s ideas and my own are combined to create this three-movement symphonic poem. The second portion of this dissertation is a study on Karlheinz Stockhausen and his effect on the trumpet repertory. By exploring the trumpet music that Stockhausen had written for his son Markus, an added dramatic element to the compositional trumpet language is discovered. Through Stockhausen’s use of visual and audible combinations the trumpet’s compositional language was expanded. Markus and his father spent many hours experimenting with the trumpet’s capabilities. As a result many trumpet techniques were extended. These sounds often are put in motion by Stockhausen’s added dramatic effects. Through Stockhausen’s *Licht Cycle* and its character Michael, who was played by Markus, a new dramatic use of the trumpet becomes clear. Three major threads will be
traced in order to clearly see the influence that Markus, Karlheinz Stockhausen, and their relationship had on the character of the trumpet. As Stockhausen’s Licht Cycle was spiritually inspired so is Dante’s Inferno.
A SYMPHONIC POEM ON DANTE’S *INFERNO*
INSTRUMENTS LIST

Piccolo (Picc.)
2 Flutes (Fl. 1, 2)
    Oboe (Ob.)
    English Horn (Eng Hr)
    E-flat Clarinet (E flat Cl.)
2 B-flat Clarinets (B.flat Cl. 1,2)
    Bass Clarinet (B. Cl.)
2 Bassoons (Bsn. 1, 2)
    Contra Bassoon (C Bsn.)
2 F Horns (Hn. 1,2)
2 C Trumpets (C. Tpt. 1,2)
2 Trombones (Tbn. 1,2)
    Tuba
4 Timpani, 2 Players (Timp 1,2)
    Percussion, 4 Players:
    Snare Drum (Sn. Dr.)
    Bass Drum (B. Dr)
    Bongos (Bg.)
    Brake Drum (Br. Dr.)
    Cow Bell (C.B.)
    Suspended Cymbal (Sus. Cym.)
    Gong
    Harp (Hp.)
    Chorus:
    10 Soprano (S)
    10 Alto (A)
    10 Tenor (T)
    10 Bass (B)
    Violin I (Vln. 1)
    Violin II (Vln. 2)
    Viola (Vla.)
    Cello (Vc.)
    Double Bass (Cb.)
PROGRAM NOTES

This original symphonic composition is a three movement musical representation of Dante’s Inferno. *A Symphonic Poem on Dante’s Inferno* uses the text of the *Inferno* as a guide throughout the composition. The titles of the three movements are as follows: I. *The Dream*, II. *The Journey*, and III. *Hell’s Depths*. Each movement represents a different part of Dante’s *Inferno*.

I. *The Dream* starts as Dante falls asleep and drifts into a dream. The setting of this dream is in the Dark Wood of Error; he wanders around until confronted by three beasts that chase him. Beatrice, an angel from Heaven, sends Virgil to rescue him. As Virgil appears Dante sees the Hill of Hope, and is directed away from the danger.

II. *The Journey* depicts the voyage that Virgil and Dante take to reach the gates of Hell. The importance of Dante’s faith is the focus of their discussions. Then Dante realizes the hardships that lie ahead. Before the journey is complete, Dante becomes very weary and falls to the ground unable to continue. Virgil lifts his spirits and they continue, finally reaching the Gates of Hell.

III. *Hell’s Depths* is the only movement that uses a chorus; the chorus’s lyrics come from the text of Dante’s *Inferno*. This finale movement begins with Dante and Virgil standing before the Gate’s of Hell. Dante reads the words written on the Door’s of Hell, but these words are heard only through the chorus. This moment marks the first appearance of the chorus. The powers before Dante are overwhelming, filling him with fear. Virgil convinces Dante, and they enter. As they pass through Hell many terrors are seen. These terrors include the Souls of Limbo, and the Nine Circles of Hell that follow. In the end the victory is God’s; as Dante ascends to Purgatory the music concludes.
I. The Dream
II. The Journey
III. Hell's Depths
A STUDY ON KARLHEINZ STOCKHAUSEN
AND HIS EFFECT ON THE TRUMPET

The premise of this study is to show that Stockhausen and his son, Markus, added a dramatic element to the trumpet repertoire. Through Stockhausen’s use of visual and audible combinations, the trumpet compositional language was expanded. Markus and his father spent many hours experimenting with the trumpet’s capabilities. As a result, many trumpet techniques were extended, adding to the sound possibilities of the trumpet. These sounds often are put in motion by Stockhausen’s added dramatic effects.

Through Stockhausen’s Licht Cycle and its character Michael, who was played by Markus, a new dramatic use of the trumpet becomes clear. Often Markus would play his father’s compositions from memory; this allowed him to move around adding many dramatic possibilities. Three major threads will be traced in order to see clearly the influence that Markus, the father, and their relationship had on the character of the trumpet.

First, the trumpet and the different characteristics of its usage throughout history will be the focus. This defining of the trumpet character will include signaling, ceremonial usage, virtuosic abilities, and character associations found in opera. This discussion will be followed by a closer look into the role of the trumpet in the 20th Century up to the avant-garde era. This discussion is revealing, showing an increase in the trumpet’s character, energy, individualism, strength, and spiritual power. This historic examination establishes the place that Stockhausen’s development of the trumpet began.

Second, Stockhausen’s early music will be shown not to place any emphasis on the trumpet. It was Markus’s involvement around 1975 that marks the emergence of the
trumpet in Stockhausen’s compositions. Additionally, the character Michael from the 
*Licht Cycle* will be connected to this father-son relationship.

Third, examination of particular trumpet examples from the *Licht Cycle* will help 
define the language and musical design used by Stockhausen to describe the character 
Michael. Points of analysis include vertical chords, timbre, form, density, drama, stage 
props, character usage, placement of performers, and the importance of the audience. 
Musical elements such as form, phrasing, timbre and their development all fit into the 
past and the future, and become the connecting fiber between these different times in 
history. Many musical and dramatic elements used by Stockhausen do not easily trace 
back hundreds of years, but make connections to more recent developments in the use of 
the trumpet.

The pieces from the *Licht Cycle* of the most interest are the ones composed for 
trumpet. The majority of the pieces examined will be from *Donnerstag*, but the operas 
from *Samstag*, *Dienstag*, and *Mittwoch*, also have trumpet pieces that place new 
opportunities to expand the trumpet’s musical language. Each of the pieces and the day 
that each belongs with can be found below:

*Upper-Lip-Dance* from *Samstag aus Licht*;

*Dienstag-Gruss, Willkommen, Pieta*, from *Dienstag-aus Licht*;

*TrumpeTent, Orchestra Finalist, Michaelion, Bassetu-Trio* from 
*Mittwoch aus Licht*; Thursday’s Greeting, Thursday’s Farewell, Michael’s Ruf,

*Dragon flight, Entry and Formula, Halt, Michaels Heimkehr, Examen*, from 
*Donnerstag aus Licht.*
Close analysis of Karlheinz Stockhausen’s trumpet compositions from LICHT: die sieben Tage der Woche adds to an understanding of modern day composition techniques for trumpet. LICHT: die sieben Tage der Woche was the vehicle to further extend the trumpet’s compositional language. It is these compositions by Stockhausen that added a dramatic element to the trumpet repertoire. Through Stockhausen’s development of the character Michael and his talented son Markus, the trumpet repertory was expanded.
TRUMPET CHARACTERISTICS

*Trumpet* is defined as a wind instrument that is made to sound by the vibrations of an air column, produced by buzzing the lips; besides its well developed mouthpiece, it consists of a relatively narrow-bore conical or cylindrical tube which is not coiled, ending in a flared bell (Tarr 8).

Because of the trumpet’s powerful design, it has the ability to be effective when placed in a number of society roles. These character roles include signaling, ceremonial usage, military, virtuosic entertainer, and representation of heavenly places. Each of these separate characters of the trumpet will be discussed to provide a better understanding of the trumpet’s development prior to Stockhausen and his trumpet compositions. This horizontal timeline will help develop a clear picture of the modern role of the trumpet, in addition to showing different trumpet traditions that have worked their way into Stockhausen’s expanded compositional language.

Early Social Development

The trumpet’s unique ability to project a loud sound has inspired its use as a signaling instrument. The trumpet has been a very practical tool for warning of approaching dangers such as an attacking army, fire, or storms. It is these social roles that have made the trumpet a part of everyday life for many centuries.

The trumpet’s ability as a signaling instrument has given it a long military history, going as far back as 1548 in Austria with article 37 of the Decree of the Imperial Police, which states that trumpeters shall not be excluded from corporations (Altenburg 1). This shows that the professional courtly trumpet player was documented as being socially important as early as 1548; therefore, proving the trumpeter’s substantial place in society.
for at least 500 years. The royal courts were not the only place that trumpets were being used. The trumpet had a military importance of undeniable measures throughout history.

One of the trumpet’s most important usages to Stockhausen was its place in the Christian Churches. The formative role of ceremonial music for the Christian churches gave the trumpet heavenly association. The Angel Michael from Stockhausen’s Licht Cycle is the perfect example of the trumpet being associated with a heavenly character.

In the Old Testament the trumpet was reserved for the priest. “In Numbers X: 1-2 we read: ‘the Lord said to Moses, make two silver trumpets; of hammered work you shall make them…’ Therefore, church fathers associated the tone of the trumpet with the voices of the angels or with the voice of God” (Tarr 9). It is this spiritual association that gave the trumpet a place and even rules for composers to follow. This helped the trumpet develop into the respected instrument known today. These religious developments of the trumpet were very important in Stockhausen’s Licht Cycle. The style that Stockhausen used was far removed from the stricter regulations of the past.

Restrictions on composing and performing in the Baroque church were detailed and non-negotiating, yet this opportunity provided by the church helped promote the trumpet’s strong and spiritual attitude. Many times throughout history, the Christian Churches’ regulations would change. In the Baroque and Classical periods, the regulations were strict in comparison to the free mindset of religious compositions today. A common example of convention on church composition from the Baroque era is the sonata da chiesa, a four movement church sonata. The Sonata da chiesa was characterized by Rousseau’s dictionary of 1767 as “Erudition, workmanship, contrapuntal artistry, and melody that must fit the dignity of the setting.” A trumpet
church sonata fitting Rousseau’s definition is Petronio Franceschini’s *Sonata a 7 con due trombe* written in 1680. A description of this piece by Lorenz Jensen follows:

> It is clear and simple in structure and its characteristic treatment of solo instrument provides a good example of the compositional practice of this time. An imitative *grave* opens the sonata, followed by an *allegro* with contrapuntal activity, than an *adagio*, which is less contrapuntal and has a sarabande rhythm. The final movement is *allegro* which is in the style of a fugue. (Lorenz 18)

The control that the Council of Trent placed on the Baroque church composers shape the musical design used throughout this genre. The structure provided by the Christian church did not hamper creativity; instead it inspired trumpet compositions. The structural development of the Baroque benefited all instrumental and vocal music. The development of structure, in the Baroque style, led to the classical sonata.

The structure of the compositions from early developments helps provide a blueprint for modern day composer to study when using the trumpet. Stockhausen’s use of the trumpet often has elements from these early traditions. Often these traditional elements are limited to the association of particular sounds and experiences, instead of an exact melody. When the trumpet is used, its sacred instrumental history has a familiar effect on its audiences. This comes from the trumpet’s continued use in today’s culture. From the trumpet being mentioned many times in the *Bible* to its continued use in the church, Stockhausen capitalizes on the power of the trumpet’s tradition.

Many ceremonial motives written for trumpet are played throughout the world in spiritual activities. The modern wedding ceremony often uses many different traditional trumpet pieces including: Purcell’s *Trumpet Tune* and *Trumpet Voluntary*, and the Romantic composer Mendelssohn’s *Mid Summer’s Night Dream*. Mendelssohn’s *Wedding March* was composed in the late 19th century and captures a timeless expression
that builds on the signaling capabilities and royal social ranking from hundreds of years of development.

The ability of the trumpet to announce important people on ideas appealed to Stockhausen. For example, in Donnerstag aus Licht there is a fanfare trumpet introduction that announces the appearance of the character Michael, titled Michael’s Abschied. This composition places the four trumpeters in different locations in the concert hall. This type of sound and space exploration is common of Stockhausen and Markus. It was this type of exploration that expanded the dramatic boundaries of the trumpet. This allowed for them to build upon the traditions of the trumpet and create new ideas with old traditions.

The 1711 Mandate Against the Unauthorized Playing of Trumpets shows the significance once placed in the sound of the trumpet. “Indeed, the trumpet was indispensable to European rulers for the role it played in the conduct of war” (Altenburg 1). In 1768 Hiller wrote: “A solemn event in church or state can hardly be celebrated without the sound of trumpets and kettledrums” (Tarr 9). As the court’s association with royalty began to disappear in the 19th century, the trumpet’s solo performance opportunities began to change. Yet, the traditions from the classical period were preserved by a single publication. In 1795, Johann Ernst Altenburg (1734-1801) published his famous Essay on an Introduction to Heroic and Musical Trumpeters’ and Kettledrummers; this important publication describes in detail the social role of the trumpet in the Classical era. The language of the Baroque and Classical composer was also restricted by the instrument’s limitation. The versatility of the modern trumpet
allowed for Stockhausen to write more freely than those composers of the Baroque and Classical Periods.

Virtuosic Abilities and Early Limitations

A major limitation of the Baroque and Classical trumpet was its inability to play in more than one key, a limit of its design. The use of crooks eases these limitations by adding tubing for different partial series; however, some passages are nearly impossible to play. Baroque trumpet played in the key of D most often, which caused limitations for composers. J.S. Bach’s *Mass in B minor* demonstrates the early capabilities of the natural trumpet. In figure 1, Trumpet I has a melody that consists of stepwise motion, while Trumpet III uses intervallic leap; therefore, both represent the capabilities of the natural trumpet.

![Figure 1 Bach Mass in B minor Measures 1-8](image)

Bach was one of many composers adding to a new body of music written particularly for the trumpet. Others included: Torelli, Albinoni, Corelli and Vivaldi, all active in the important cities of Italy during the late Baroque. The compositional techniques of these composers set the standard. These great early composers developed the expressive potential of trumpet and its compositional style.
After these early developments, the trumpet began to be viewed as a virtuosic instrument. The trumpet’s capability to play light and fluid melodic passages allowed many lyrical melodic lines to emerge in numerous trumpet concertos and solo works of the late Baroque and early Classical periods. The virtuosic ability was still very limited to the upper range, because of the natural trumpet’s inability to produce stepwise motion in the lower register. New trumpet designs were developed to overcome these limitations. One of these early developments was the keyed trumpet, which expanded its scalar abilities in the lower register that occurred in the late classical period.

The history of the keyed trumpet begins in 1796 when Haydn wrote his concerto for Weidinger, who developed an early model of this trumpet called the trompette. In 1804, Hummel’s trumpet concerto was completed, and in 1810, Joseph Haliday patented the keyed bugle (Dudgeon 8). Another development was the Keyed Bugle. Around 1815, keyed bugles were being mass-produced in France. In 1834, Anton Heinrich composed the Concerto for the Keyed Bugle (Dudgeon 81). The expanded range and the chromatic ability of the keyed trumpet and bugle were moving towards a more modern sound; but, unfortunately, these developments would not stop the solo trumpet literature’s eventual decline.

Stockhausen or Markus did not overlook these developments of the trumpet. Stockhausen and Markus studied both the Haydn and Hummel trumpet concertos. This proves that the developments of the trumpet were of interest to Markus and his father. It was Stockhausen that composed cadenzas for the Haydn and Hummel for his son, Markus.
The greatest step forward in the development of the trumpet was the adaptation of values in the first quarter of the 19th century, which allowed the trumpet a complete chromatic range. The trumpet’s new abilities included the following: tone control, agility, and expanded range, made it an equal to instruments like oboe and violin. There will always be limitations on the trumpet’s abilities, but ingenuity like that of Stockhausen and Markus continued to expand its capabilities. Many of the freedoms found in Stockhausen’s compositions come from the ideas of the Romantic composers of the 19th century. Trumpet traditions were both developed and discovered under the hands of the Romantic idealist.

Nineteenth Century

By the end of the 18th century the use of the trumpet as a solo instrument had declined, partly as result of the disappearance of small courts, which maintained orchestras, and the demotion of the trumpet from solo to orchestral status. This change in composition style did not cause trumpet music to stop being written. During this time period there are powerful examples that built on the traditions developed in the previous three hundred years. Composers continue to exploit the signaling, military, and ceremonial roles of the trumpet, just as Stockhausen did a century later.

Beethoven and his contemporaries wrote for the natural trumpet, choosing their tonal centers carefully. The example found in figure 2, is from Beethoven’s Fourth Symphony, and demonstrates the use of natural accruing harmonic overtones originally written for the natural trumpet.
Bate, one of the leading authors on the trumpet’s history, describes new intervallic capabilities associated with the Romantic period by saying:

The flat seventh was used fairly freely. Occasionally after about 1830 notes outside the harmonic series were called for, as in Rossini’s _Semiramide_ Overture, and in some of Mendelssohn’s score, but, as by this time it had become custom particularly to nominate valve trumpets when they were desired. (Bate 58)

Bate is clearly stating that the trumpet’s design was changing; therefore, causing the expectations of the performer to be expanded. Berlioz conceived the ingenious idea of using the *cornet-a-piston* to fill in missing notes in trumpet themes (Tarr 171). Berlioz was one of the first composers to use the cornet, even though natural trumpets were still being used in the majority of the orchestras.

Characteristics of signaling and fanfare motives can be seen in many of the great Romantic composers. The four Brahms symphonies composed at the height of the Romantic era, used the trumpet’s fanfare and signaling abilities, but did not stretch the trumpet’s ability (Bate 215).
The Russian five and their virtuosic style, tested the ability of all trumpet performers who played their symphonies. From the fast driving rhythmic melodies to the power and endurance demanded, these compositions show the power of the trumpet’s character. Rimsky Korsakov’s *Scheherazade* is a fine example of the Russian composition style and the Russian’s use of the trumpet.

Figure 4 Rimsky Korsakov *Scheherazade* Measures 1-3

The German composer Richard Strauss stretches the range and versatility of the trumpet. Another of the late romantics, Gustav Mahler used a combination of virtuosity and fanfare motifs throughout his symphonic compositions. The Opening of Mahler 1st Symphony is a classic example of this style of fanfare trumpet introductions. Mahler takes this driving motif and uses it throughout his first symphony.

Figure 5 Mahler Symphony No. 1 Measures 1-4

From Beethoven’s *Fidelio* and it’s off stage trumpet calls to the Mahler symphonies, examples that use fanfare trumpet parts are plentiful. The powerful sound of the trumpet gave it a brilliant part in the Classical and Romantic symphony orchestra.

The expectation for the composer to produce new and exciting sounds in their compositions, inspired a continuous search for new sound ideas. An example is Gustav Mahler’s *Choral Symphony*, also known as the *Symphony of a Thousand*. The premiere
was in Munich on September 12 1910, the chorus included about 850, with an orchestra of 171. These massive forces represent a desire to explore new sound combinations. In the 19th century composers did a great deal of experimentation. It was this experimental and discovery of new sounds that would inspire the expansion of the trumpet language.

Outside of symphonic writing of the Romantic period the use of arrangements for trumpet were on the rise. Transcriptions of older tunes became an area of interest. This created more solo works for trumpet. It was the use of arrangements for trumpet that lead to solo literature, not the concerto, in the 19th century.

With this change in expectation, the trumpet performers began to be able to achieve a wider range of sound possibilities. The composition *Hora Staccato* written for violin in 1906 by the Romanian Grigoras Dinicu, is a violin solo that was later arranged for trumpet. The sounds of the glissandos and slides are imitated, but the double stops are not. This virtuosic level of the violin was now being seen as a near equal of the trumpet. This same type of expansion of language is later seen in Stockhausen’s trumpet compositions.

**Opera**

Stockhausen’s *Licht Cycle* is an opera cycle that uses the trumpet to represent its main character, the angle Michael. The trumpet has a long tradition in opera but never has it been used compositionally and dramatically as in Stockhausen *Licht Cycle*. To understand the dramatic development of the trumpet in Stockhausen’s music, a historic overview of the trumpet in opera will be developed.

A brief overview of the trumpet usages in opera begins with Monteverdi. In 1607, an important trumpet orchestra innovation was made.
Monteverdi, evidently not satisfied to accept anything that his trumpeters might choose in offer, incorporated in the overture to *Orfeo*, his own fanfare written in five parts. This is the first example we know of a composer placing his will on the trumpet body in this way. (Bate 209)

Monteverdi used the trumpet’s fanfare motive as accompaniment to many different dramatic and spiritual scenes. The English composer Henry Purcell and French composer Jean Baptiste Lully both furthered the use of the trumpet in the opera through their brilliantly written overtures. Commonly, the trumpet would be used between scenes as an introduction to upcoming drama (Bate 210). “From 1831 on such opera composers as Bellini, Meyerbeer, Donizetti, and Verdi began to write for the trumpet and treat them as unhampered melodic voices” (Bate 246).

The *liet motif*, a creation of Wagner, was a direct influence on the relationship of the trumpet’s characters of opera. The trumpet’s ability to be melodic and powerful made it possible for the trumpet to depict a large variety of characters including: gods, kings, spiritual figures, and objects of war.

Siegfried, a character from Wagner’s *Ring* is announced by a horn call. This call was mysterious and spiritual and represents the signaling characteristic of the brass instruments. *Music and Drama* published in 1851 included a detailed explanation of Wagner’s thoughts on music and drama as art. Wagner claims opera the highest art form. The formation of *liet motifs* was a direct result of Wagner’s musical intentions. It was these intentions that gave the instrument’s place in opera a new unique roles. These same roles later inspired many composers including Stockhausen who wrote the *Licht Cycle*, a much larger work than Wagner’s *Ring*, his largest work. Wagner’s *Ring* was also an opera cycle.
Jazz and Modern Discovery

At the same time as Wagner’s *Ring*, the staple repertoire for the trumpet was beginning to have a major shift in Europe. The Americas begin to influence a new sound. This new sound included brass bands and virtuoso music for the solo cornet, music often neglected by the symphony. This new music was often overlooked by the German Second Viennese School, which played an important role in the development of new sound ideas around the same time as the birth of jazz. Schoenberg, Weber, and Berg never focused particularly on the trumpet, but still their musical influence was important to 20th century. It was the combination of the German ideas on musical composition and the ideas of jazz and ethnic music that inspired Stockhausen. Hindemith developed his own musical theories on composition, and used these theories to write a very popular trumpet concerto in the 1930’s. Hindemith did not focus on the dramatic capabilities of the trumpet with as much vigor as Stockhausen.

Seen in the 1930s were rapid technical advances and expansion of opportunity for brass performers in the popular idiom of jazz. This type of use for the trumpet is very different when compared to a concerto. The trumpet’s modern character is associated with jazz as well. It was these developments that lead to the *avant-garde* style of composition.

With the jazz explosion of the 1920’s a renewed vigor of the solo brass gave the trumpet a new image and attitude. Louis Armstrong and Tommy Dorsey were the early improvising geniuses that directly affected the technical demands expected of performers.
The revolution of the mid to late 1940s, known as ‘Be-bop’, then ‘modern jazz’ was melodically and harmonically more complex, infinitely more challenging from a technical point of view; while socially speaking it marks the first determined breakaway from the Negro music of the old days. Gillespie brought to jazz trumpet playing a technical facility and extended upwards range was far beyond the powers of Armstrong; and his followers Clifford Brown, Fats Navarro, Kenny Durham, and Miles Davis were almost his technical equals. (Bate 246)

These trumpet figures collectively developed a new technical language that was academic and socially ‘cool.’ This trumpet attitude paved the way for the extended techniques and new sounds. The new acceptance by composers of these jazz sounds, has woven these sounds into the avant-garde music over the last 50 years. It is Markus’s love for jazz, which entangled jazz sounds so tightly into the new style developed by the Stockhausens.

Stockhausen mentions Bela Bartok’s Violin Concerto No. 2 1937-38, and notes a resemblance between a passage in Kontakte and Bartok’s Concerto for Orchestra, which both uses exposed lip glissando in the brass (Maconie 519). Gershwin and his wonderful compositions for orchestra, truly set the curve for notating jazz sounds into the classical genre. Paul Whiteman’s sensational introduction to Gershwin’s Rhapsody in Blue, from 1924, showed that jazz was finding it’s way into classical notation. Maconie says “that the basset-horn glissandi of Montags-Gruss is similar to those found in the clarinet of Gershwin’s early jazz imitations” (Maconie 462). This shows Stockhausen’s tie to the past and his inclusion of these past ideas into his music. Many other composers before Stockhausen expanded the ideas of notation and sound, especially those after the Second World War.
Post WWII

The ideas associated with the Second Viennese School encourage new music composition styles. Some were in protest against Schoenberg’s ideas and others simply wanted to further his research. One example of the changing composition style is seen in Messian’s *Modes de valeurs et d’ intensites*, which gave each individual pitch separate articulations and dynamics. Boulez expanded on the ideas of Messian and made various forms of strict number control. Iannis Xenakis, *Eonta*, 1963-4, used extreme mathematical formulas he called universal truths. He wrote repeating wild patterns in the trombone solo in *Keren* 1986 (Griffiths 176).

It was Berio who summed it up in his *Sequenzas*. These compositions show the changing role of the performer, and work as a great example of the use of costumes and stage props in solo compositions. Each new historical use of the trumpet paved the way for Stockhausen and Markus to build upon.

When Europe was being redrawn after WWII, an opportunity also arose for something new in music. Electronic experimentation expanded the ideas of sound and space experimentation in music composition. The use of electronic media in compositions would direct influence Stockhausen, who developed a reputation as an electronic pioneer. After WWII, a change in academic acceptance of ethnic music caused different world music to influence the modern composer. These ethnic influences played a part in composers embracing new sound sources from all over the world. John Cage is a great example of ethnic music influence in the avant-garde. John Cage embraced the Asian culture and used their traditions in his compositions. John Cage also conversed with Stockhausen on many topics that would have influenced his compositions.
By this time jazz had an established tradition of glissandos, lip slurs, wide intervallic lip trills in addition to many other trumpet techniques develop notation devices to represent these special effects. Composers such as Gershwin, Copeland and Ives wove these sounds into their orchestral compositions. These traditional jazz techniques were then being developed into standard musical notation causing a change in attitude regarding what sounds are acceptable within academic discourse.

The Glenn Miller Orchestra brass players are one example of brass bands using new sounds. They could produce a subtle “wa” in precise rhythmic synchronization through using; mutes, dynamic changes, and quick releases. These early brass section developments, inspired composers to further develop different degrees of muted sounds under a new rhythmic dimension. The crescendos and decrescendos related to these big band sections, produced walls of sounds that were later placed in rhythmic situations producing new compositional possibilities. Many other techniques originated within the jazz genre that did not use mutes. A general listing is as follows: valve techniques, tonguing techniques, embouchure/lip techniques, mouth piece techniques, vocal sound effects, percussion effects, and electronically synthesized sound. A complete list of commonly used extended trumpet techniques can be found in Appendix.

In addition to muting, different extended techniques had begun to develop. As a result, notation’s ability to represent new sounds and effects had been universally expanded. In many cases an additional explanation was needed. Up until 1960 extended techniques had never been a primary source for brass compositions. Trumpet techniques may have been used here and there before the 1950s, but never had a particular extended technique been the focus of a single composition.
Changes in composition style were among most of the leading composers. The expectation of the player was also at a much higher level. The ability to express through notation was expanding in its precision. This allowed for the trumpet to be more in parallel with the sounds from the jazz experience. Stockhausen was one of many composers who directly affected the trumpets changing role as a result of these sound experimentations. This developmental spirit drove the avant-garde compositional style. New sound possibilities were not limited to pitch, new sound effects came from rhythm as well.

Igor Stravinsky would often use nontraditional forms of rhythmic organization, two great examples of which include Monumentum (1960) and A Sermon, A narrative, and a Prayer (1961). These nontraditional pieces were actually based on ideas from the Baroque period; however, when the score is examined, the connection to the Baroque is not obvious. The technique of removing an instrument’s staff when it is not used gives these Stravinsky scores a unique appearance.

Modern composers that wrote dissonant sound combinations often would use musical texture as a catalyst for new sounds. One texture to emerge from this new school of thought was sound mass composition, made popular by Legiti and Penderetsky. Another important German composer after WWII was Bernard Aloes Zimmermann. His Mosque pour les soupers du Roi Ubu used sound mass techniques (Cambridge Guide 282). Die Soldaten, prelude is a fine example of Zimmermann’s powerful trumpet writing. There are four separate trumpet parts in this ensemble with trombones and horns. Zimmerman’s use of rapid arabesques in all the brass, producing washes of color in Die
Soldaten 1958-60 rev. 1963-64, indicates how much the expectation on the performer had reached (Cambridge Guide 296).

Another part of sound experimentation that strongly influenced Stockhausen was the resulted of using many different types of mutes. Mutes for brass instruments are inserted into or held over the end of the bell, which alters the air column inside and outside the body of the instrument. Aluminum, brass, and copper are used to make mutes, all of which are metals made in an industrial society. Muting can simply involve the use of the player’s hand, a piece of cloth, any method of sound manipulation that involves covering the bell could be classified as muting. Markus Stockhausen had a special belt designed so he could hold up to nine different mutes at one time, allowing for fast mute changes while moving around.

The most commonly used mutes include the following: Straight mute, Double mute, Plunger mute, Cup mute, Buzz-wa mute, Harmon mute, Mica mute, Whisper mute, Beer glass, cloth, and hand mute. The notation symbol most commonly used to indicate the mutes listed above is a cone-shaped symbol △. This symbol often will need a brief indication regarding to which mute it refers. Timed mute changes commonly appear in the avant-garde repertoire. These progressive developments are now defined as part of the extended techniques category.

Berio’s Sequenza’s captures a historic musical change for the orchestra instruments. This collection of solo pieces uses the avant-garde style in a unique way for each of the featured instruments (Berio Sequenza CD). The trombone and trumpet were represented as equals to the violin, viola, and cello in Sequenzas. Since the characters of the trumpet and trombone had been firmly established through jazz, the scene was set for
a brass evolution. The trumpet solo was not complete until 1984, but the trombone solo was finished in the mid 1960s. A close examination of these compositions shows a direct representation of the jazz connection. Because of what Berio captured in these two brass solo pieces, a discussion of \textit{Sequenzas V and X} is very revealing. A clear connection between Jazz’s freedom and academic respect is made by Berio’s ability to notate a clear explanation of the new sounds that he used so effectively. Below is a description of \textit{Sequenza V} for trombone.

The stage is empty, except for a low stand and a chair. Enter a trombone player, immaculate in white tie. He points his instrument in the air and plays a single loud high note. He repeats the action at six-second intervals. At the fifth attempt, no sound comes. Rattled, he becomes more energetic. He has a tin basin, which he holds over the bell of his instrument: occasionally, he sings a pert ‘wa’ as the notes come faster. The player is frantic, then hysterical; but, the harder he works the less sound comes out. After saying “WHY” he falls into the chair. Here he plays a complex tormented Lament. Though the rhythms are indicated by proportion rather than metered it is a work as clearly conceived as any work by Beethoven. (\textit{Cambridge Guide} 278)

Here sounds are distorted, losing any sense of defined pitch. This is not improvisation, because its notation is precise. The use of drama and stage props are not used in the trumpet solo nineteen years later with the completion of \textit{Sequenza X}, a description of which is found below, but there is still a unique dramatic quality found in \textit{Sequenza X}.

\textit{Sequenza X} was completed in 1984 for the trumpeter Thomas Stevens; it is unusual in that it avoids extending the instrument’s accepted technical limits. The designation “for trumpet in C and piano resonance” is significant: the piano keeps its sustaining pedal, with different notes, depressed throughout the piece, ensuring the stark
trumpet tones are cushioned by myriad harmonic overtones, so opening-out its expressive range (Berio *Sequenza* CD).

This dramatic use of the performer is directly related to Stockhausen’s composition style that often adds dramatic effects and motions into his music. There is a relationship between the audience and the stage that both Berio and Stockhausen explored. A brief look at the details of *Sequenza X* will provide an example of a modern trumpet solo composed at the same time as Stockhausen’s *Licht Cycle*. The dramatic effect Berio’s *Sequenza X* had on the audience is similar to that of Stockhausen.

*Sequenza X*, makes a clear connections to a jazz influence that can now be notated. Sounds heard in *Sequenza X* immediately remind the listener of jazz rhythms and intervals. The opening interval is a minor third with a rhythm that expresses the essence of the trumpet’s character formulated through jazz. Berio leaves some silent spaces allowing the listener to internalize each musical gesture. Yet, compared to current extended compositional techniques, Berio’s use is conservative. The music, its direction, and the phrases are all easily followed. Berio’s *Sequenza X* uses the following extended techniques: flutter tonguing, glissando, lip slurs, extended range, rapid tongue, triple tongue, gradual increasing of speed with tonguing, extreme dynamics, extended range, as well as others. Stockhausen was also using many of the same trumpet techniques used by Berio in his trumpet compositions. Another composer that used the trumpet dramatically is Samuel Pellman.

Pellman like Stockhausen, demand that its performer be willing to move, acts, and dress, as a specific character. His *Trump-it* for solo in 1982 required some theatrical interpretations and performance staging accessories, which included a metal wastebasket
containing two inches of water, dry ice, an armchair, end table, a throw rug, and a rubber chicken. Special techniques were used such as multi-phonics, measured vibrato, and hand muting. Dry ice is placed in the water before the performance. Even as dramatic as Pellman’s and Berio’s trumpet compositions were not nearly as dramatic as Stockhausen’s trumpet creations.

It is the trumpets developments upon this horizontal time line that truly set the stage for Stockhausen and Markus. It is the combination of these two that will help develop the trumpet further than ever before in history. From the expanded sound capabilities to the dramatic demands on the performer, Stockhausen took the trumpet’s expressive language into a new realm of intensity.
STOCKHAUSEN

In his words “in my experience it is by emphasizing the strangeness, and not trying to do away with it or diminish it, that you are more likely to reach the truth. For the moment you try to explain things that appear to be strange, and you think you have explained them, then you have completely missed their message and their importance. I think it is more important than anything else to draw attention to strange and inexplicable, for only that is truly original” (Maconie vi).

In the beginning of Stockhausen’s compositional career the trumpet played a minimal role; however, later after Markus’s apperence in his father’s compositions there was an interest in developing the effects on the trumpet. Through a brief overview of the trumpet’s role in the orchestra and the music of Karlheinz Stockhausen’s Licht Cycle, this father-son relationship’s influence on the trumpet avant-garde repertoire will be discovered. An overview of Stockhausen’s orchestra pieces demonstrates that his early pieces had little significance on the trumpet as a solo or dominant instrument. It is not until Punkte in 1952 that the cornet appears in Stockhausen’s music; this original version of Punkte was withdrawn. The 1962 version has two trumpets in it. Because of Stockhausen’s obsession with electronic music, he produced Konkrete Etude, 1952, Elektronische Studie I, 1953, Elektronische studie II, 1954, and Gesang der Junglinge, 1956, all of which kept him from completing an orchestra piece with a trumpet part until Gruppen, 1957.

In Gruppen, written for three orchestras, the perception of time was his focus. Time and rhythmic studies were of significance to the composers after WWII. Using three different orchestras at once, allowed for rhythms of different tempo to be layered over
one another. This helped accomplish new musical effects, good or bad. It was this experimental, interest that drove Stockhausen, not a particular instrument. Each of the three orchestras has there are two trumpets; however, once again, the role of the trumpet is diminished through his compositional techniques. Groups of sounds are used to enhance the perception of time; the groups themselves are the focus not the individual instruments within them.

*Carre*, written in 1960, consists of four orchestras with one trumpet in each. The German musicologist, Karl Worner, recalls his first impressions, which totally confounded conventional expectations. Worner could find nothing recognizable whether texts, themes, or motives. In their place, he heard only the solo instruments. This supports the idea of the trumpet’s having a more recognizable place within his orchestra, but still not a significant role. After this progression in Stockhausen’s orchestra music, in 1976 he produced *Tierkreis* ‘twelve melodies for the signs of the Zodiac;’ one of which is *Aries* in 1976. A separate arrangement of *Aries* completed in 1980 was for solo trumpet and electronic music. At this same time in 1977, he composed *Sirius* for electronics, trumpet, soprano, bass clarinet and bass. By this time the *Licht cycle* was in its beginning. Paul Griffiths in his *Modern Music and After* describes an introduction to the importance of Markus. He says the following:

Stockhausen’s status as an originator, from the early 1950s to the early 1970, has been amply documented… then things changed. There was the general lapse of belief in origination, and as a result the composer’s self-belief- never in doubt… he becomes his own publisher and his own record producer, and, continuing as his own performer, he began to concentrate his attention on a group consisting of his children and regular members of his household. Since 1975 much of his music has featured his sons Markus (trumpet) and Simon (saxophone and synthesizer), his daughter Majella (piano), and his companion Suzanne Stephens (bass clarinet). (Griffiths 244)
The character Michael, played by Markus, made a huge difference in Stockhausen’s approach to trumpet composition. This composition style helped develop the strong influence and productivity of Stockhausen’s trumpet output. Edward Tarr, one of the leading trumpet performers and writers of the 20th century, said: “Stockhausen’s present writing for his gifted trumpeter son Markus (b. 1957), employs conventional notation, presenting problems only of range and endurance” (Tarr 176). Markus and his father expanded many different trumpet techniques. Stockhausen used Markus’s abilities to expand the composition language of the modern trumpet repertoire. In an overview of Stockhausen’s trumpet compositions the use of drama and discovery of new sounds are easily seen. First a closer look at Markus Stockhausen’s life, which provides a clear platform for his father to develop new compositional usages for the trumpet.
MKARUS STOCKHAUSEN

At the age of six Markus began piano lessons and by the age of 12 he began playing the trumpet. Even as a very young child when he was taken to his father’s rehearsals, he always stood by the trumpet section (Maconie 98). Therefore, it was no surprise when he chose trumpet as his instrument. Perhaps one of the most influential moments in Markus’ young life was when one of his early trumpet teachers, Robert Plant, gave him a copy of Freddy Hubbard’s album, First Light. Marcus recalled later that it was this album that opened the door to his love for the trumpet. Marcus’ first band borrowed synthesizers, gongs, electronic guitars from his school, and the music was a mixture of Jimi Hendrix, jazz, blues, and avant-garde elements. It appears that jazz and improvised music was where Marcus found his joy with the trumpet.

However, while Marcus was teaching and competing, he found it beneficial to know the classics, such as Haydn, Hindemith, and Mozart. He has recorded the Haydn and Hummel, trumpet concertos with cadenzas written by his father. Both of these cadenzas are found on Stockhausen Edition CD 39. In 1975, an intense performance schedule with his father marks the beginning of their development of the trumpet’s Literature. Sirius was the first work by Karlheinz Stockhausen that requires the performers to be in full costume at four different positions in the performance space. While Marcus was still completing his classical exams and playing in big bands, he also spent time improvising together with his father’s work. This mixture of music types and styles kept his style fresh and original.

Eventually, Marcus did perform in the Licht Cycle, written by his father, Karlheinz. The first opera in the cycle, Donnerstag aus Licht, includes a major role for
the trumpet, and is dedicated to Marcus. In fact, the second act, *Michael's Reise*, is a trumpet concerto, which now has Marcus not only in costume but acting, moving, and playing from memory.

After being involved with his father’s *Donnerstag aus Licht*, Markus’ involvement became less dominant for several reasons. The main factor was the time needed to prepare for these works, which in the case of *Donnerstag*, took many months, and even years of hard labor and total commitment. In addition to learning the difficult trumpet part by memory was the added burden of learning the movements, staging and gestures, which are all annotated. These types of difficulties caused Markus to pursue other musical interests. This may have been a turning point in their relationship. However, even after this turning point, Stockhausen produced many trumpet compositions.

By the early 1980s, Markus and his father were working together very little. However, Karlheinz Stockhausen’s writing of traditional cadenzas, for the Haydn and Mozart trumpet concertos, shows a continued interest in Markus’ music career. In 1985, he returned to Haydn’s concerto, composing a cadenza for the third movement. In 1984 he composed a cadenza for Leopold Mozart’s trumpet concerto, also for his son. But by the early 1990’s Karlheinz Stockhausen arranged many of his pieces for the *Licht Cycle* for his son Markus. Some of these are *Michael’s Ruf*, *Donnerstags-Abschied* and *Trumpetent*. In 1993, Marcus assembled a trumpet quartet of three close musical friends, all of who participated in *Dienstag aus Licht*. Together they became “The Michael Trumpeters” (Maconie 495).
In 1995, they were invited to perform in an historic courtyard in the Architecture Facility in Genoa, Italy. Their programs accommodated solo works as well as works for four trumpets, such as Britten’s *Fanfare* and a short fanfare by Stravinsky, an arrangement of *Summa* by Arvo Part, *Trio* by Sofia Gubaidulina as well as *Dienstags-Gruss* from *Dienstag aus Licht* and *Trumpetent* by Karl Stockhausen. This selection of music is evidence of the impact that Marcus and his father were making on trumpet. All of which promotes both Karlheinz and Markus Stockhausens’ as having a strong effect on avant-garde trumpet compositions.

The following section of this study focuses on the trumpet music from the *Licht Cycle*. First, a full description of the *Licht Cycle*, then the individual operas that include important solo trumpet literature is reviewed.
The music structure is cyclic, and it is in the image of natural time. Stockhausen has constructed a three-layer super formula, divisible by seven. The super formula was created with three layers, a reference to the trinity, which is commonly found in religious thinking. There are three main characters found in Licht including; Michael, Eva, and Lucifer. Religion is often evident in Stockhausen’s work, and Licht: die sieben Tage der Woche is one of his most profound religious dedications.

Begun in 1977, this religion-inspired cycle was not finished until 2003. Licht involved a real-time marriage of musical and natural time; it is based on a fundamental cycle of the week and its seventh harmonic, the day. Each day of the week has its own opera. Stockhausen refers to these different operas, from the Licht Cycle, as mystery plays or passion plays. This cycle would absorb virtually all of his creative energies for the following 26 years (Maconie 403).

It was the Licht Cycle, and the character Michael, that caused Stockhausen’s dramatic effect on the trumpet repertoire. Stockhausen says, “Michael is the protector angel of the Germans and I have known this since I was a small child. Michael is also the protector angel of the Hebrew people” (Maconie 263). This gives a perspective of the importance of religion to Stockhausen. Within this opera, the days of the week that refer to Michael include: Samstag, Dienstag, Mittwoch, and Donnerstag. They specifically arise as being more important because the leading role that Michael plays. It is the opera Donnerstag aus Licht that is dedicated solely to Michael and the trumpet. The trumpet part in Donnerstag aus Licht has an elevated role when compared to the other six operas.
The following study of music examples from the *Licht Cycle* that include trumpet, show the dramatic and experimental nature of Stockhausen. These contributions to the trumpet repertory are possible because of Markus’s performing talents. The combination of Markus’s talents and Karlheinz Stockhausen’s compositional ability resulted in many innovative pieces for the trumpet. The following section of this study will provide a detailed description of each trumpet composition from the *Licht Cycle*. The four operas with dramatic trumpet music of interest include: *Samstag aus Licht*, *Dienstag-aus Licht*, *Mittwoch aus Licht*, and *Donnerstag aus Licht*

**Samstag aus Licht**

Table 1 Movement Components for *Samstag aus Licht*

<table>
<thead>
<tr>
<th><strong>Saturday Greeting</strong></th>
<th>For 26 Brass instruments and 2 percussionist 1984: No. 53 ½</th>
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</thead>
<tbody>
<tr>
<td><strong>Scene 1:</strong></td>
<td></td>
</tr>
<tr>
<td><em>Luzifer’s Traum</em></td>
<td>For bass and piano solo; 2 transmitting microphones, 3 microphones, 4 loudspeakers, mixing console. 1981: No. 51</td>
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<tr>
<td><strong>Scene 2:</strong></td>
<td></td>
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<tr>
<td><em>Luzifers Requiem</em></td>
<td>For flute and 6 percussionists; 7 transmitting microphones, 10 loudspeakers, mixing console 1982-1983; No 52</td>
</tr>
<tr>
<td><strong>Scene 3:</strong></td>
<td></td>
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<tr>
<td><em>Luzifers Tanz</em></td>
<td>For bass voice, piccolo trumpet, piccolo flute, symphonic band, stilt-dancer, dancer, ballet or mimes; 4 transmitting microphones, 22 microphones, 2 x 2 loudspeakers, mixing console. 1983: No. 53</td>
</tr>
<tr>
<td>*Alternative title:</td>
<td></td>
</tr>
<tr>
<td>Upper-Lip-Dance</td>
<td></td>
</tr>
<tr>
<td><strong>Scene 4:</strong></td>
<td></td>
</tr>
<tr>
<td><em>Luzifers Abschied</em></td>
<td>For men’s chorus, 7 trombones, and a bird cage containing a wild raven, a large stop clock, various church bells, a bag of small coins, a large sack containing 39 coconuts, 26 transmitting microphones, 4 microphones, 5 x 2 loudspeakers, mixing console. 7 basses, clappers, and miniature bells. 1982: No. 54</td>
</tr>
</tbody>
</table>

The above graph provides a complete overview of the instrumentation of *Samstag aus Licht* (Maconie 439-458). Obvious is the clear use of non-traditional musical forces,
from the electronic equipment to the large amount of brass performers. Stage props such as a ‘birdcage containing a wild raven’ show the high dramatic expectation communicated to the audience. This dramatic expectation of the audience motivates Stockhausen’s composition style and reasoning. Samstag-Gruss and Luzifers Traum are the only two portions of Samstag aus Licht that uses trumpet. These two compositions are discussed below.

**Samstag-Gruss**

Samstag-Gruss opens with a powerful fanfare motive. The intensity of sound produced by twenty-six brass instruments grabs the attention of the audience. Stockhausen also has the brass placed above and behind the audience. The placement of the brass instruments above the audience is seen consistently throughout the Licht Cycle. Two percussionists are used in a modern fashion, accenting rhythms with a timbre that contrast with the brass sounds. Such contrasting timbres are commonly exploited in Stockhausen’s compositions.

**Upper-Lip-Dance**

Stockhausen explains that, “Since 1975 I have composed numerous trumpet works for my son Markus (Sirius, Michael’s Journey, etc). From time to time in 1983, he would come to me and say: “Just listen once to this piccolo trumpet”, and then he would improvise something for me. That is why, one day, Upper-Lip-Dance came into existence for the 3rd scene (Lucifer’s Dance) of the Opera Samstag aus Licht” (Stockhausen S.V 43). This type of experimentation showcases Stockhausen’s unique sounds through which he realized the agility and versatility of a piccolo trumpet. Upper-Lip-Dance represents more than just pitches and rhythm, for there is an added dramatic element
related to the characters in the opera. Lucifer tap dances while the piccolo trumpet is being played, which encourages the playfulness associated with the youthful character of Michael. This association of spirited cheerfulness with the character of Lucifer demonstrates Stockhausen’s power to communicate.

Originating from a protest, this *Upper-Lip-Dance* plays with moods of youthful fire, cheerfulness, the sweep of wind and storm, singing poetically dreamily, furiously and unfettered again. Thus this *Protest*, in contrast to those in daily life, is given a sublime musical form. Despite the soloist nature of *Upper-Lip-Dance*, it has been arranged for a symphonic band or symphony orchestra and three soloists: bass voice, or euphonium or trombone, piccolo trumpet, trombone or euphoniums, 4 or 8 horns and 2 percussionists lasting around 11 minutes.

*Dienstag aus Licht*

Table 2 Movement Components for *Dienstag aus Licht*

<table>
<thead>
<tr>
<th>Movement</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Dienstag Greeting</strong></td>
<td>For soprano, 9 trumpets, 9 trombones, 2 synthesizers, choir divided antiphonally SSTT right, ABB left, conductor and co-conductor, 1 transmitting microphone, 8 microphones, 4 x 2 loudspeakers, mixing console. 1977: No. 47</td>
</tr>
<tr>
<td><strong>Act I</strong></td>
<td>For tenor, bass, 4 dancer-mimes, actor-singer, 3-mimes, little girl, beautiful woman; 3 Synthesizers, 3 piccolos, 3 soprano saxophones, guitar, harpsichord, anvil, bongo, bass drum, 2-track tape; 7 transmitting microphones, 7 microphones, 2 track recorder, 4 x 2 loudspeakers, 4 optical sage loudspeakers.</td>
</tr>
<tr>
<td><strong>Jahreslauf vom Dienstag</strong></td>
<td>For 3 trumpets (1. Also flugelhorn); 3 trombones, 2 synthesizer players with assistants, 2 percussionists with 2 assistants, 6 tutti trumpets and 6 tutti trombones, choir and conductor, 8 track -2 tapes, 5 transmitting microphones, 40 microphones, 8 x 2 loudspeakers, 4 optional stage loudspeakers, mixing console, duration: 1 hour 14’1991: No. 61</td>
</tr>
<tr>
<td><strong>Act II: Invasion-Explosion Mitt Abschied</strong></td>
<td>For flugelhorn, soprano, and electronic music; 2 transmitting microphones, 8-track tape recorder, 8 x 2 (2 x 2) loudspeakers, mixing console. 1990: No. 61 ½</td>
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</tbody>
</table>

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Above is a graphic instrumentation overview of *Dienstag aus Licht*, written from 1987-1991 (Maconie 477-490). Visual and audio effects are used throughout *Dienstag aus Licht* to communicate Stockhausen’s message. By this time in history modern electronic media was available. The electronic equipment needed for this performance includes 7 transmitting microphones, 8-40, b track and 2-tapes and recorders, 16-20 loudspeakers, and mixing console.

This opera requires a massive amount of resources that include music performers, actors, dancers, as well as the above electronic equipment. The three solo trumpets, flugelhorn and 6 tutti trumpets will be of the most importance to this study, but many other performers and equipment are needed such as three harmoniums or synthesizers, and a harpsichord. The dramatic effect is increased by the inclusion of four dancer-mimes, and actors.

*Dienstag aus Licht* is the day of Mars, the god of war. This day depicts a grand war, and uses film and electronic sounds to represent these violent activities. Before any of this begins the brass sounds from above welcome the audience to the adventure that is to begin. The brass opening the opera is a connection to the signaling abilities of the brass. This character of signaling is used over and over by Stockhausen adding a glorious introduction when ever possible. Even though the character Michael is not the focus of this opera, his presence is still significant.

It is *Dienstag-Gruss* and *Pieta* that will be discussed below because of the trumpet’s elevated character in these two compositions. These compositions will also show the dual characters that the trumpet can represent. In *Willkommen* it’s signaling characteristics are represented.
Dienstag-Gruss

Dienstag-Gruss was composed in 1987-1988, and it holds No.60 in the Stockhausen-Verlag catalogue system. Dienstag Gruss includes nine trumpets and nine trombones playing from the balcony behind the audience. In order to make their faces visible, the brass players laid their parts on the balcony before them. In this piece their are seven blocks, each with four pitches that are to be triple-tongued at each player’s desire. These types of numeric relationships are present throughout all of Stockhausen’s compositions. In this case the number seven refers to the cycles’ days, and the triple tongue the trinity.

The soprano and double choir blend forcefully with the large number of brass. There is a need for two conductors, one for each choir, which is divided antiphonally SSTT right, AABB left, conductor and co-conductor. Adding to the necessary equipment is one transmitting microphone, 8 microphones, 4 x 2 loudspeakers, and a mixing console. The opening music lasts for 21 minutes, and shows the grand spectacle that Stockhausen demanded from a performance. The fanfare brass compositional style can be seen in the discussion on Willkommen found below. The main difference between Dienstag-Gruss and Willkommen is that the later has no voices or choirs.

Willkommen

Willkommen originated as part of Dienstag-Gruss, which was commissioned by Cologne University on the occasion of its 600th anniversary celebration. The world premiere was given on November 4th 1988 with the title Welcome with Peace Greeting. Markus Stockhausen rehearsed the 9 trumpeters that performed in the premier of Willkommen. The performance notes state that the instrumentation in the opera calls for
9 trumpets (3+2+2+2), 9 trombones (4+5) and 2 synthesizers. It is possible to use more or fewer brass players in a concert performance, as long as the groups sound equally loud. The highest part may be played on piccolo trumpets, which require WAWA mutes (Willkommen Score).

The performers are to be placed behind the audience, either at the front of a balcony or on a high podium behind the listeners, with trumpets and synthesizer I at the rear right, trombones and synthesizer II at the rear left. This sort of unexpected dramatic placement of the performers is typical of Stockhausen’s style. The multiple layers of sound direction keep a dramatic intensity within the musical performance. Audience members spinning around uncomfortably in their seats are all part of the performance. The dramatic effect added by the player’s positioning does add a certain charisma to this opening gesture.

Figure 6 Willkommen Measures 1-6
The familiar writing style between figure 6 and other greetings from these operas provide striking similarities, which include: parallel rhythmic structure, forceful dynamic levels, and the use of silence to separate phrases. Another similarity is the placement of the performers in non-traditional places, causing sound to come from above and behind. This constant placement of the brass above the audience is a reminder of the heavenly character that the brass is representing. The trombone being present is a foreshadowing of its character representation of the devil.

*Pieta aus Dienstag*

*Pieta* for flugelhorn, soprano, and electronic music, is part of Act II Invasion-Explosion. Its duration is about 28 minutes and also can be performed as a solo under the title *Pieta*. Stockhausen speaks about the composition process that he and Markus went through to achieve *Pieta*.

The composition came about from June 6th to 15th 1990 in *Djurskogfjallet* near *Djurskog* (Sweden) where I was living with my son Markus in a solitary log house on a lake, Markus had a quarter-tone flugelhorn specially constructed out of a *Besson Flugelhorn* built around 1930-1940. We experimented as I composed, and daily tried out and improved the newly written passages. (Stockhausen CD 52)

With the combination of performer and composer working together, greatness is achieved. If Markus would not have been present enduring his father’s compositional process, *Pieta* may not have been the same. The specially constructed horn also gives *Pieta* an original quality. This type of experimentation is refreshing and expands the ability capable by the trumpet. Stockhausen discusses this extra valve in more detail, he says,
Using a 4th valve, all quartertones can be played, and using alternate fingerings, approximate earth tones. A highly-developed half value technique makes it possible to produce all kinds of glissandi. Also the technique of playing loud, precisely pitched pedal notes has been developed since my composition *Michael’s Journey Round the Earth*. (Stockhausen C.D 52)

The discovery of new possibilities and the inventive attitude of Stockhausen become apparent from these statements. His drive to discover is what pushes his creations forward. His expansion of sound and space is the exact reason the language of the trumpet became broader through this magical father-son pair. *Pieta* uses many extended techniques, the first of which is the extended range of the flugelhorn in *Pieta* that extends nearly five octaves.

![Flugel Horn](image)

*Figure 7 Pieta Measures 203 - 215*

Many extended techniques were developed by way of special half-valve techniques, vowel sounds and vowel transitions. These sounds played by the flugelhorn sometimes resemble a weeping human voice. Many new colored noises, such as wind differentiated in pitch, were created through this father-son relationship. Abnormally played pitches render the work a unique sound-world that included: kissing-noises into the mouthpiece, new kinds of tremolo, tongue-trills, soft tonguing techniques, and the use of plunger mute. It is with this extended vocabulary that Stockhausen’s music thrives.
Often drama is a large part of Stockhausen’s creations and Pieta’s drama is no different in this regard. In the 2nd Invasion, one of the Michael-trumpets is wounded. A woman, the soprano, appears, and sits down. The trumpeter is laid across her lap in a way similar to that in which Christ is seen on the lap of his mother Mary in Pieta paintings and sculptures. The soul of the trumpeter then rises out of his body, hovers behind the soprano, stands very large as a spirit behind her and plays on flugelhorn the duet with her, while she constantly looks at the body on her lap or sings upward to Heaven. (Maconie 485).

*Mittwoch aus Licht*

Table 3 Movement Components for *Mittwoch aus Licht*

<table>
<thead>
<tr>
<th>Scene</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Licht-Ruf</strong></td>
<td>For trumpet basset-horn and synthesizer</td>
</tr>
<tr>
<td>Scene I: Welt-Parlament (World Parliament)</td>
<td>(Stockhausen Verlag) For choir SATB a cappella (with singing conductor and two speaking voices); 34 microphones, 15 transmitting microphones (Stage performance only), 2 x 2 loudspeakers, mixing console Duration 40’. 1995: No. 66</td>
</tr>
<tr>
<td>Scene II: Orchester-Finalisten (Orchestra Finalists)</td>
<td>For double chamber orchestra and electronic music. Orchestra of 13 instruments (or 2 x 13); 3 (6) transmitting microphones, 10 microphones, 8 (8 x 2) loudspeakers, 16 track tape recorder, mixing console Duration 2 x 451995-96: No. 68</td>
</tr>
<tr>
<td>Scene III: Helikopter-Streichquartett (Helicopter String Quartet)</td>
<td>For string quartet (soloistic), 4 helicopters and pilots, 4 video cameramen; 4 television transmitters, 4 x 3 microphones, 4 x 3 transmitting microphones, monitor headsets; (auditorium) 4 towers of television monitors, 4 groups of loudspeakers, mixing console(s), sound projectionist. Duration 28’1993: No. 68</td>
</tr>
<tr>
<td>Scene IV: Michaelion</td>
<td>For choir, bass with shortwave receiver, flute, basset-horn, trumpet, trombone, synthesizer player, 8-track tape, 2 dancers, sound projectionist; 19 microphones, 8 transmitting microphones, 8-track tape recorder, 19 loudspeakers, 4 monitor loud speakers, 7 video cameras, 7 video monitors, additional small loudspeakers.</td>
</tr>
<tr>
<td><strong>Farewell: Bassetsu-Trio</strong></td>
<td>For basset-horn, trumpet, and trombone. 1997; ex No. 70</td>
</tr>
</tbody>
</table>
*Mittwoch aus Licht* was written from 1995-1997, Nos. 65-71 of the Stockhausen-Verlag catalogue. *Mittwoch aus Licht* includes: a greeting, four scenes, and a farewell, and has a duration of 4 hours 37 minutes, all of which are seen in the above diagram.

*Mittwoch* means mid-week, and is a mediation, striking a balance, reaching a compromise, muddling through. Also reconciliation: this is Stockhausen in nostalgic vien. Traveling back in time to 1952 Paris to relive the pioneer spirit of early *musique concrete*, and beyond that to the first three decades of the 20\textsuperscript{th} Century. (Maconie 433)

Only scenes 2 and 3 provide interesting trumpet material towards this study. The unique role of the trumpet in *Orchestra Finalist* from Scene 2 is discussed first, and then Scene 3’s relationship to *Trumpetent*. The trumpet quartet, *Trumpetent* uses; drama, stage props, and many other non-traditional elements that help expand the expressive ability of musical performance. But first, *Orchestra Finalist* from Scene 2 of *Mittwoch aus Licht*, which uses electronic media to project instruments sounds for different places in the concert hall

*Orchestra Finalist*

Electronic sounds are present throughout *Orchestra Finalist*. The electronic sounds are bended with a variety of timbres from acoustic instruments. These thirteen different instruments are commonly found in the symphony orchestra. The amplification of the instruments allows the instrumental sounds to move. The sound can be produced at any of the different speakers locations. This results in the blending of the electronic sounds with the instrumental sounds. Stockhausen would often have a sound projectionist controlling amplitude and sound direction. The instrumental solos do not solo in a traditional manner. Instead, extended techniques and fragmented melodies or changed through the electronic capabilities.
The trumpet solo uses many extended techniques including voice usage, tapping on values, and small light kissing sounds amplified and the trumpet, which easily works as a megaphone. However, these techniques are difficult to identify. Electronic sounds are connected to extended techniques such as blowing, and sucking to make different air sounds, it these types of sounds that are hard to distinguish from the electronic media.

Each instrument’s character is represented as separate from the others, allowing the attitude of the instrument to be heard. When Orchestra Finalist was completed in 1991, the attitude of the listener had changed. The listener expected new modern music to be surprising and different. Orchestra Finalist represents the avant-garde though it’s unique use of acoustic and electronic media in a composition.

Trumpetent

Trumpetent is another composition from Wednesday from Light, for four trumpets (super formula for Wednesday of Licht) is work number 73 written in October 1995. It is based on the Helicopter String Quartet in which four helicopters independently take up four performers. The four performers include two violins, viola, and cello, which create the quartet; but, this is a unique performance situation. The sounds from the helicopters and the performers are piped electronically into a concert hall where an audience experiences the sounds. This experience is controlled through electronic balancing techniques that strongly influences the final experience that the audience experiences.

This unique performance situation was later arranged for the Michael Trumpeters and performed its world premiere on May 31st, 1996, under the title TrumpeTent. TrumpeTent uses many different techniques to achieve an arrangement that is a good
representation of the original intention of *Helicopter String Quartet*. Many of the extras used included amplification, lighting, clothing and stage setting to enhance this quartet experience. The performers play through four holes in the tent, but are also instructed to move about the auditorium with specific detail in timing and positioning. Found throughout this piece are many special *avant-garde* compositional techniques such as flutter tonguing, quartertones, and free-range glissando. The three pages of performance notes are required to explain these in detail because of the expertise they demand. Written in 1996 with Markus in mind as the performer, no limitation was placed on the composer’s demands.

Some parallel ideas between *Helicopter String Quartet* and *Trumpetent* are evident. One such parallel is the trumpet vibrato imitating the helicopter blades. Controlled sound and creativity describe the wide variety of sound found through Stockhausen’s uses of the trumpet vibrato. These sound collages began to sound like the blades through dissonant and crossing beat patterns created when two or more performers play out of tune. These types of dissonant sounds create beating patterns from the sound waves’ effect on one another.

The detailed motion of the trumpet performers gives each performer prescribed paths to move while playing. Movement of the performers works as a reminder of the motion that the flying helicopters traveled in this original path. Each room and the performers’ instruction are listed below.

*Room 1*

Playing sustained notes, four trumpeters enter the hall coming from the four cardinal points. The opening measure lasts about one minute in duration and the
trumpeter T3, slowly changes between the E and E-flat that representing a slow turning rotator blade.

Figure 8 Trumpetent Opening Measure.

They walk calmly and ceremoniously cross-wise until they have reached the center of the audience. The opposite players always look at each other. After reaching the center they halt, forming a square, and play synchronously. (Stockhausen CD 52)

Figure 8 shows a simple musical texture that allows the performers to move easily. Then in Figure 9, measure 2, the performers have reached the center of the concert hall and play together in a parallel-metered rhythm.

Figure 9 Trumpetent Measures 1-3
Pitches of the first measure are played freely without meter, while the performers are moving, entering through different doors and reaching a centre square formation. Then measure two is metered and played together. This quick burst is meant to shock the listener and give contrast to the low energy of the first measure that lasts a little over one minute. This time allowed the performers to move to the square-shaped stance in the center of the concert hall. Measure 2 can be seen, in figure 10, without any rhythm allowing for the intervals to be seen easily.

Figure 10 *Trumpetent* Measure 2, pitches only

Half steps are seen in the linear lines of each of the four trumpet parts in the above example. In measure three, the half step is present between all four trumpets, again in two separate pairs. The presence of the half step is an undeniable connection throughout these first three measures. Figure 11 shows that the pitches in measure 3 have the same interval, a half step, embedded in the melodic line as it was in the first two measures.
Figure 11 *Trumpetent* Measure 3, pitch relationships

The most importance interval, of the first room, is the half step. This interval of a half step can be seen in the final vertical chord of the first room, seen in figure 11. It is the half steps ability to sound like the dissonances sounds created by the helicopter blades rotation. Then while playing the third measure, players walk straight ahead towards the opposite cardinal point and out of the hall. Each continues to play his pitch outside, walks to his point of entry for the following section space II and, halfway, changes to the pitch with trill.

*Room II*

The four trumpeters stride into the hall from the four cardinal, compass points, playing a trill. They walk along the walls counter-clockwise and slowly play variously long crescendo and decrescendo patterns. At each cardinal point they individually change to the next pitch. As each reaches his fourth cardinal point, he stops, looks towards the other trumpeters and plays the synchronous bars together with them. Measure four is played while walking along the walls in the same direction as blades of the helicopter.

The long pitches held out with varying dynamic, vibrato, and rhythms from fast to extremely slow. These trumpet sounds that are meant to depict the helicopters’ taking off. Immediately this activity brings with it a loud dynamic and intensity that is achieved through layering. Here one vibrating sound is blended with another to form powerful
dynamics. These polyphonic sounds create a sound whirlwind space with vibrato as the color. These colors are blended, painting a sonic picture of helicopter blades.

Figure 12 Trumpetent Measure 4, Pitches only

The pitches in the Figure 12, show each of the four sonorities that are played while the performers enter the room and walk along the walls. The dissonant qualities of the sounds in room two can be seen in Figure 13. The direction that the performers walk represents the rotation of the helicopter rotator blades.

Figure 13 Trumpetent Measures 4-6
On the fermata in measure 6, seen in figure 13, the performers are flutter-tonguing, each walks out and through the foyer to the rear door of the centre aisle, changing underway to the prescribed pitch, which is played continuously, with durations of various lengths, pulsing individually.

*Room III*

All four trumpeters enter the hall from the rear, while playing and walking side-by-side in pairs, down the center aisle to the front, one pair behind the other. They walk onto the stage and into the tent from behind, and stick the bells of the trumpets out of the four holes in the tent. The performers are now moving together, which allows for more metered music. The opening gesture of Room III, begins with an un-metered gesture that allows the performers to move into the concert hall. The next musical phrase, seen in Figure 14, uses this same pattern, which allows the performers to achieve movement while maintaining a sense of security through the measures that are un-metered. This starting and stopping helps keep the music and the musicians together in their motion and their playing.

Figure 14 *Trumpetent* Measures 7-11
Figure 15 shows measures 16-20 that follows the same type of pattern beginning with an un-metered measure then pushing forward with metered music.

![Figure 15 Trumpetent Measures 16-20](image)

In these first three rooms the sounds represent the sounds of the helicopter blades from the time the engines start, through take off, and ascent. Then the sounds seem to represent the helicopters’ flight away, their return and landing. The idea associated with flying relates nicely to the heavenly, angelic qualities that the trumpet-playing angel Michael enjoys. It is this flying journey that is depicted in the first three rooms of *Trumpetent*. The importance of the trumpet’s sound to Stockhausen is obvious. He originally dedicated *Trumpetent* to all trumpeters who play in the spirit of Michael.

Numeric relationships were important to Stockhausen and the number 7 and its appearance in measure thirteen below connects to the overall purpose of this composition and it’s relationship to the *Licht Cycle* which depicts the seven days of the week.
Alternating time signatures keep the rhythmic pulses constantly in an unstable nature. In measure thirteen, found in the above example, the accented pulses represent a duple feeling, then the next sonority is a dotted half for three beats. The next measure has a single note of six beats in duration, which can be seen as triple or duple. The numeric influence is seen, where 3 and 7 seem to be important. Density is another important element explored by Stockhausen along with its ability to capture the listener’s attention. Figure 17 shows exchange of sound density from full to light.
Silence is used in measures 29-30, seen in figure 18, where the activity of 26-28 is now contrasted with a gesture developed around more silence than sound. It is the next 3 measures, 31-33 that provides a cadence through a rise in dynamic, and again, is followed by silence.

![Figure 18 Trumpetent Measures 29-33](image)

Measure 33 ends with a long moment of silence that clearly marks the end of Room 3, and the beginning of the final room.

**Room 4**

Then all four trumpeters play parallel rhythm together. At the end, they slowly pull the bells back into the tent. At the applause the players stick their heads out of the holes, slightly nod, and pull their heads back into the holes. This process should be continued until the applause has ended, and the players remain in the tent until the audience has left.

Four performers in the tent playing through holes is a representation of the performer in the helicopter, making a direct connection to the *Helicopter String Quartet.*
In the fourth and final room, the music changes and the helicopter blades are no longer the focus. The muted trumpets create a more distant sounding helicopter blade, which layered melodies fit easily above. This allows for melodies of *Helicopter String Quartet* to be featured. There is also a physical dramatic connection between the two pieces. In *Helicopter String Quartet* the music was piped into an auditorium.

The monitors projecting the muted trumpet sounds would have produced a sound closer to the actual experience of the *Helicopter String Quartet*’s audience. Because the muted trumpet sound was mixed-in by a sound projectionist a connection is made to the string quartet from the *Helicopter Quartet*. This control was very important in *Helicopter String Quartet* because the helicopter blades had to been faded allowing the violins melody to be placed dynamically above the other by a sound technician. In *TrumpeTent* this is achieved through the muted sounds being ran through monitors by a sound projectionist.

In rooms one through three the choppers start (Room 1) then in Room 2 they build power and take off, then in Room 3 they go far away and then return. The motion of the performers around the concert hall, outside the concert hall, and moving through the concert hall, and then finally ending up to the tent, make a large connection with the dramatic effect of the helicopter and the performers inside of them. Rooms 1-3 represent the journey that each helicopter makes in the original performance. And the last room, Room 4, is more focused on the performers and the melodic fragments from the string quartet and how they were blended with the blades in the concert hall.

There is a silence before Room IV clearly marks its beginning. This silence also allows time for the performers to get into the tent on stage. Heard here are far more
extended techniques than in the previous three. At one point blowing through the trumpet sounds like air being released from a machine. This machine representation must be a depiction of the helicopter’s engine releasing air. Some of the other extended techniques used in *Trumpetent* include: shakes, mutes of all sorts, and sound combinations that including flutter tonguing that moves into a combination of different interval lip slurs. With an unexpected pause, the 1’33 seconds of silence begins. The techniques found in this room are presented in the following example. Examples are blowing, harmon mute, lip slurs, crescendo of all sorts, and kissing in the mouthpiece, clicking in the month, sand paper sound with blowing, and rhythmic development through blowing. Quartertones with tapping the mouthpieces are also heard along with flutter tonguing. Growls and lip slurs all in rhythm are heard along with vocal signing of long-held consonant chord, or at least what seems consonant in comparison to the other material found in this room. Ending on a chord of a pure nature does provide a clear connection to the first sounds heard in room one. The following series of examples and discussion will explore some of the similarities and differences between the final room and the three rooms from before.

Figure 19 *Trumpetent* Measures 34-38
In Figure 18, immediately an increase in actively is seen, which includes an increase in rhythmic diversity, density through contrapuntal variety, and more melodic material. The duple-triple rhythmic contrast can be seen in both Figure 19 measures 36-38, and Figure 20 measures 39-41.

Figure 20 *Trumpet* Measures 39-41

Figure 21 *Trumpet* Measures 55-59
Room 4 combines vertical sounds that happen over time, which are not metered, and metered high-energy blast of parallel and polyphonic rhythms. These separate ideas or developed over a rhythmic contrast between duple and triple. The combination of these two separated musical textures can be seen in Figure 21 that shows the final musical gesture. One connection that is found in every room is the use of long chordal gestures. These chords are quite different as each room progresses, and each uses a variety of different extended techniques to provide each chordal moment with a unique sound.

**Donnerstag aus Licht**

Table 4 Movement Components for *Donnerstag aus Licht*

| **Donnerstag-Gruss**  
| **(Thursday Greeting)**  
| **Alternative title:** Michaels-Gruss  
| **(Michael’s Greeting)**  |
| **Act I: Michael Jugend**  
| **(Michael’s Youth)**  | For 8 brass instruments, piano, 3 percussionists  
| **(Conducted)**  |
| **Act II: Michael’s Reise um die Erde**  
| **(Michael’s Journey Around the World)**  |
| Including; *Tanze Luzefa Mondeva Examen.* For tenor, soprano, bass, trumpet, basset-horn, trombone, piano; electric organ; 8-track and 2-track tapes; 6 transmitting microphones, 2 microphones, 8-track and 2 track tape recorders, 10 loud speakers, mixing console.  |
| **Act III Michaels Heimkehr**  
| **(Michael’s Home-coming)**  |
| For tenor, soprano, bass trumpet, basset-horn, trombone; 2 soprano saxophones, electric organ or synthesizer; old women; choir, large orchestra, 8-track and 2 track tapes, 8 transmitter microphones, 15 microphones, 8 track tape recorder, 10 x 2 loudspeakers, mixing console.  |
| **Unsichtbare Chore**  
| **(Invisible Choirs) Act I and Act III**  |
| Extract, for prerecorded unaccompanied choir (16 to 8 or 2 track tape).  |
| **Donnerstags-Abschied**  
| **(Thursday Farewell)**  
| **Alternative title:** Michaels Abschied  
| **“Farewell”**  | For five trumpeters on rooftops and balconies play five ‘limbs’ of the Michael Formula in its plain intervalllic form.
Donnerstag aus Licht, composed between 1978-80, is an opera in three acts that includes a greeting and a farewell (Maconie 421-437). “Donnerstag is the day in which good will in the character of Michael and in terms of the worldly ideas and experience of the composer himself is most clearly in the ascendant” (Maconie 271). Stockhausen’s vision of Michael places him on the highest spiritual level. The brilliant character can be seen throughout Donnerstag aus Licht more than any other opera in the Licht Cycle. Another example of the trumpets dramatic character is found in Act 2. Here Michael’s Journey around the Earth is a strikingly visualized instrumental movement for trumpet. As a trumpeter, Michael appears within a rotating globe at seven different openings and plays music identifying with the idiom of the seven regions of the earth.

“His terrestrial pilgrimage (equivalent to a one-movement concerto of 48 minutes’ duration) leads into an extended duo with Eva as basset-horn in which they exchange intimacies in the otherworldly language of melody” (Maconie 275). Some of the pieces created for trumpet from the Opera Donnerstag aus Licht included the following: Donnerstag-Gruss, Donnerstag-Abschied, Michael’s Ruf, Michaels Jugend, and Michaels Reise. Michael’s influence is clear, yet throughout examples of Stockhausen’s trumpet writing style a compositional language emerges.

A performance of the opera Donnerstag aus Licht begins with the Donnerstag-Gruss (1978). When performed separately in a concert, it is entitled Michael’s Greeting in the sense that Thursday is the Michael’s Day. Michael’s Greeting is for 8 brass instruments, piano (or vibraphone) and 3 percussionist.
Donnerstag-Gruss

Donnerstag-Gruss has three parts. A shortened version for variable instrumentation of the 1st Donnerstag-Gruss is entitled Michael’s Call and lasts circa two minutes. It is printed separately in the Score of Donnerstag-Gruss as work number 48 ½. In 1994 Stockhausen arranged a version of Michael’s Call for his son Markus’ trumpet quartet. Also, within this opera is a trumpet and basset horn duet entitled Mission and Ascension (Maconie 426). The trumpet part is extensive in the avant-garde techniques used, even requiring a double staff for the complete explanation. A detailed explanation of Michael’s Call follows.

Michael’s Call

Two versions exist (1978/94), but the 1994 version for four trumpets is the focus here. A recording of Michael’s Call was made on November 21st 1995 at WDR broadcasting house in Cologne (Stockhausen CD 52). The performers include Markus Stockhausen, Andreas Adam, Marco Blaauw, and Achim Gorsch. The four trumpeters should play Michael’s Call from four cardinal points of an auditorium to open the concert. Stockhausen makes it clear that the performers are to be dispersed throughout the concert hall at four cardinal points. First, in order to achieve the desired sounds the performer must have the ability to ensure that the sound approaches the listeners from all directions equally and balanced. The sound will not be displayed throughout the room as in a traditional concert during which the performers are all on a stage at the front of the hall. This sound deployment adds to the unique quality of Michael’s Call. Second, the performers’ ability to begin together and play together will be under strain. Standing next
to someone to playing together in the traditional form is far easier than breathing and playing together from across the concert hall.

*Michael’s Call* opens with brilliant chords followed by silence with dramatic vibrato in rhythm. The parallel rhythmic structure lasts for the entire 1-1/2 minute of the composition and is followed by a 30 second moment of silence. This silence allows for the characters to find their places and for Michael to appear. The fanfare musical style is appropriate for *Michael’s Ruf*’s original purpose, the opening of the opera and introduction. Often, fanfares introduce new things such as important people, new ideas or characters, or important ideas that deserve emphasis. *Michael’s Ruf* achieves this purpose perfectly. In the composer’s notes from the Para text in the musical score, Stockhausen suggests that trumpets be used in the beginning of the concert.

This version for four trumpets gives off an intensity of sound welcoming the angel’s appearance. It is the rhythmic pulses, vibrato speeds, and dynamic changes that create the forward motion. Silence is used to help shape clearly the musical gestures as well as the positioning of the performers as they all play towards the center from four points of the compass. This added separation between the performers can cause some problem when playing together is so important. The different durations of these moments of silence causes a sense of rhythmic dissonance. Using density and amplitude to form phrasing is an old idea; but, Stockhausen’s eye for details produce new situations. The details found in figure 22, gives an example of Stockhausen’s use of accents to form musical motion. The placement of these accents causes an excitement within the musical texture that grabs the listener’s attention.
This opening gesture, seen in Figure 22, is traditional in its fanfare, signaling compositional style. Stockhausen’s added dramatic elements make this music score unique. The glory of an angel’s appearance is being created by the above gesture. Additionally, the first trumpet part has seven accents. With this in mind notice the number of accents in the first trumpet part, seven references to the cycle’s larger scheme always lies within each musical example from Licht Cycle.

The final vertical chord is notably dissonant in nature. The four pitch classes present [8, 6, 3, 2,] are the reason for the dissonant sound in the presence of a tri-tone, combined with a whole and a half step. Because there is no traditional harmonic progression found here, it is not the vertical chord stacks that move the music forward. The pulses found in the rhythmic placement in combination with a vibration speed variation are the true driving forces in these measures.
Figure 23 *Michael’s Ruf* Measures 6-9.

The symmetry between silence and sound is the true antecedent consequent phrase structure making each phrase two measures in length. The density and amplitude of four trumpets playing double *fortissimo* makes this relationship between measures 6-7 and 8-9 as dramatic as possible. These brief melodic gestures are meant to call the angel. In Stockhausen’s vision, the voice of a child’s mother calling her son is strong. This is the cry for Michael to appear. The density that Stockhausen chooses by having all trumpets playing provides a powerful representation of the call that is summoning Michael.

Figures 22 and 23 show two separate musical phrases measures 1-5 as the first, and 6-9 as the second. Stockhausen takes these two phrases and retrogrades them into the next musical gesture. The larger scheme found in measures 1-17 reaches a climax, which depicts a longer more complex sound statement. The use of accents found in Figure 24 are very similar to those found in the opening measures of *Michael’s Ruf*. 
When the music begins again in measure 17, seen in Figure 24, new materials are used. By changing the dynamic from loud to soft, the listener is made curious. The pulses found in the rhythmic structure are very active, adding to the intensity of the pianissimo dynamic markings. Immediately the music returns to a fortissimo dynamic and then rocks back and forth from loud to soft twice ending loud; yet, a quick return to silence marks the end of the phrase, seen in figure 25.
The fanfare compositional style is evident in Figure 25. The silence of measures 20-23, both balances measures 17-19, but also provides a break before the contrasting gesture emerges in measures 24-29, found in figure 26. Balancing gestures helps form symmetry.

Figure 26 Michael Ruf Measure 24-29

The melodic line of the first trumpet is given small melodic fragments that work as the announcement that the angle Michael has arrived. Also, the contrapuntal motion in T1 is inverted when compared to the material of the first half of the composition measures 1-17, with the second half being measures 17-30. The duration of this 6-measure phrase and its extension is one of the musical elements that provide a sense of closure, as the cadences of traditional harmony did so in the classical era.

Examination

Examination is the second scene in Act I of the opera Thursday from Light, whose staged world premier was in 1981 in Milan. The 3 Michaels (tenor, trumpeter, dancer) should resemble one another as closely as possible; in any case, they must be dressed
identically and be identified by the Michael-sign, three concentric blue rings with blue crosses on chest, back, and possible on the side of each trouser leg. Michael must take a triple *Examination* in order to be admitted into the advanced School of Music. His deceased parents, Eve and Lucimon appear in voice (soprano and bass) and body (2 speaker-mimes) as a four-person jury who calls Michael to the examination. His parents have changed so drastically, that he does not recognize them (Stockhausen CD 43).

In *First Examination*, Michael as a singer describes seven moments of his childhood from the perspective of his mother. Through their comments, the jury members demonstrate great astonishment at his art as he sings the words.

In *Second Examination*, he describes his childhood again, this time as trumpeter from the perspective of his father as Moon-eve with basset-horn hovers in the air as his guardian angle, invisible to the jury. The jury is stunned by his virtuosity, frightened by his attacks, and sympathetic to his story.

In *Third Examination*, he describes his youth a third time, now as a dancer from his perspective as child, dancing, singing, and playing trumpet simultaneously in three figures who sometimes rapidly disappear as singer or trumpeter, but who reappear somewhere else.

*Entry and Formula*

This is the beginning of *Michael’s Journey Round the Earth*, which is Act II of *Thursday from Light*. The original version is for trumpet and orchestra (1978). For concert performances, this entry scene has been published separately as a trumpet solo. *Entry and Formula* is dedicated to the son, Markus Stockhausen.
The trumpeter wearing Michael’s costume enters step by step from the right, energetically playing *Entry* from the low register to the high register, and halts upon reaching the centre of the stage. There, he plays the 7-limb *Michael Formula* one of the 3 formula of the super formula with which the entire *Licht Cycle* is composed (Maconie 431-432). Evolving, from a nuclear formula, seen in Figure 27, this begins and ends-untransposed-on C and has 13 nuclear pitches and 5 limbs (Stockhausen CD 43).

![Figure 27](image)

**Figure 27** The 5-limb Nuclear Formula *Michael Formula*

Between the 5 limbs, which are separated by rest of this nuclear formula, so called accessories (variation, echo, scale, modulation, “pre-echo” as “wind”) and various noises of colored silence are inserted, resulting in the complete 7-limb *Michael Formula*. The limbs of this *Michael-formula* have different timbres, produce by open trumpet, 4 mutes and special ways of playing colored noises. Each limb also has its own characteristic intervals and dynamic levels. The Michael formula has 12 different tempi in a chromatic scale of tempi from 63.5 to 120.

After complete silence for the entire first 10 seconds, the trumpeter enters quickly and plays short-rapidly ascending musical gestures. Finally, the trumpeter reaches a high note and falls downward to a stopping point. Immediately, the song is complete, but is only meant to be an introduction for the *Examination*, a 26 minute piece for tenor,
trumpet basset-horn, piano, soprano, bass, 2 speakers-mimis. The electronic sounds are always present and affect a listener’s ability to pick out what is real and what is not. Stockhausen’s ability to blend the trumpet and electronic sounds one into the other, similar to a melting pot of sound, creates a new dimension for sound to depict more extreme characters like Michael.

Extended trumpet techniques found in this piece are blowing, breathe rhythms, mutes, growls, muted growl, voice effects, and pedal tones in fast repeated patterns. Smears sound as thought they could be sucking and playing, or, short percussive types of rim short notes. These are followed by a kissing percussion effect, and then mute in to long notes, followed by a swell crescendo to silence. After 15 seconds or so, the trumpet comes back, but it clearly amplifies the sound being manipulated through an electronic echo effect. The contrabassoon and pedal tones roar through amplified ability, much more clear than a trumpet could produce. The high chords emerge producing a wall of sound that is a crescendo mechanism to bring sound spaces right in front of the audience and then, almost immediately falling as though coming from a small place on the horizon.

The instruments movement with this sound wall’s crescendos and seem also to follow the sound’s depth. This is one description of hundreds of effective and powerful sound manipulations found within the Examination. Trumpet music being drawn from the Licht Cycle does help to encourage action. For this reason many of the pieces above include more than just an oral aspect, but even include a visual part. These types of drama-induced performances add to the idea of avant-garde music. After the seven positions on the earth are reached, Michael’s Journey Round the Earth in Donnerstag aus Licht, is followed by a trumpet and double bass piece entitled Halt.
Halt

_Halt_, which includes drama instruction and extensive _avant-garde_ composition techniques, is another example of Stockhausen’s use of the trumpet’s new resources. Drama was always expected from opera singers, but Michael now becomes an instrumental opera character, which is not of a traditional manner. Normally at the opera the trumpet performers are found in the orchestra pit. The drama begins after Michael shouts “Halt!” as he stops the globe, searches around, comes to the double bass player and seats himself beside him (Maconie 433). At this point _Halt_ begins. This piece can also be performed independently of the opera giving the trumpet’s solo literature a dramatic boost. It is the ability of these opera compositions to stand alone that gives their dramatic elements the ability to transform a traditional concert stage into a dramatic adventure. Another extremely dramatic example from _Donnerstag aus Licht_ is _Dragon Fight_.

_Dragon Fight_

_Dragon Flight_ and its characteristics are described below. The trumpet is God’s instrument and the trombone the Devil’s, and in Act III the two do square off in a dual (Stockhausen CD 43).

It is twilight, and misty. An electric organ stands out of doors. Someone dressed completely in black approaches and sits down behind the organ. The character then puts on a mask of death and begins to play. He calls voicelessly, accompanying himself as he calls, “There is no home also angels are externally underway” A trumpet sounds simultaneously from afar. Then, an organ player repeats the same words speaking loudly, then once again singing, each time together with organ and trumpet.
After that the trumpet plays four signal-like melodic fragments. Then Michael as trumpeter, recognizable by Michael’s sign, enters from the right wearing a light blue costume and blue eye mask. Immediately afterwards, Lucifer as trombonist, recognizable by the Lucifer sign, approaches from the left wearing a black torero costume with cape and hat, and red eye-mask.

They bow to each other and then turn around until they are facing in opposite directions. Michael turns around lighting fast and shoots at Lucifer several times with the trumpet. At the 7th shot of the trumpet, Lucifer turns around just as fast and shoots back with the trombone, all the while tap dancing. From then on a bitter dual develops between the two of them, at the end of which Lucifer is so heavily wounded by 15 trumpet shots that he collapses.

As night falls, only the face of the organist remains illuminated; and, as Lucifer drags himself away, Michael disappears. The Dragon Flight dies away with the distant calling between trumpet and trombone. Dragon Fight ends with sarcastic laughter from the organ player, who then pulls off the second mask of the angelic youth who remains as a normal person. At the opera’s end as patrons are leaving, five trumpeters on roof tops and balconies play five ‘limbs’ of the Michael Formula in its plain intervallic form.

Donnerstag Abschied

The first staged performance of Donnerstag aus Licht occurred at 7:30 pm March 15, 1980 at the Teatro alla Scala, Milan. All performances at La Scala were preceded by Thursday Greeting which began at 7:00 p.m. Performances were concluded by Donnerstag Abschied which lasted from about 11:30 PM until midnight. Donnerstag Gruss was performed in the foyer on the first floor, and for all further performances was
performed in the entrance foyer directly in front of the main doors to the stalls. *Donnerstag Abschied* was played from three balconies around the square from the terraces on the *la Scala* building (*Donnerstag Abschied Musical Score*). The combination of music and drama warrants attention because of Karlheinz Stockhausen’s talents in developing these two elements as one. All of the pieces from the *Licht* opera cycle reflected the drama of the story and the characters’ experiences. It was the God-like characters that directly influenced these extracted compositions arranged for Markus and his “Michael Trumpeters”. For example, the *Donnerstag Abschied* was performed from balconies, but Stockhausen wrote a second version to be performed within an auditorium *Michael’s Abschied* with a different title. The result of these two different space dimensions was dramatic. The audience would be different, as the audience for *Donnerstag Abschied* would be walking from the concert to somewhere else, and the audience of *Michael’s Farewell* would be just leaving the concert hall. The outside performance of *Donnerstag Abschied* would have been exciting because of its unexpected result or it’s catching the audience off guard. *Donnerstag aus Licht*’s audience would be mixed with people on the street, causing a mixing of concert goes and non-attendances. Either of these two groups may experience a sense of being left out. The above discussion is of *Donnerstag Abschied*; the discussion below is of an arrangement that Stockhausen made for the Michael’s Trumpeters.

*Michael's Abschied*

The solo trumpet begins with a single statement of the main motif. Soon overlapping with the first, a second trumpet begins. Repetition of this motif causes the four trumpets to create different harmonies. This downward then upward intervallic leap
is the driving force behind the differential of the contrapuntal line. The overlapping motif causes very dissonant musical moments. About three minutes, an extremely dissonant clash happens. Most of the composition amounts to long held dissonant qualities.

This may be effective on a CD recording, but in the true space, the performer would not have the same effect on the listener. A pointillist rhythm emerges making a rhythmic moment that is interesting, but is never repeated. The dynamic crescendos gradually build while pulsing trumpet entrances are heard above the canvas, and then blend into the sound wall. After a mount of silence 4 minutes into the piece, an inverted form of the original motif appears. The duration of this motif is only about 1 ½ minutes long. Then another moment of silence brings back the opening motif.

The next moment of silence brings back the inverted motif. The density is the main element to bring a cadencies feeling. Quartertones up and down are used sparingly to add dissonant flavor to some of the long held vertical chords. The coda has one or two trumpets playing at the same time bringing the music from a forward momentum to a halt, with a final statement of the inverted motif. The final motif heard is a development of the opening motif.

The effect of this piece on its intended audience would not be the same as the Cd experience. The dramatic effect on the sound of the raised performers in the out-of-doors would be dramatically different than an inside arrangement. The placement of the performers is extremely important to the effect on the audience’s interpretation of the sounds. This heavenly placement of the sound outweighs the interpretation of the notes and rhythms, which play a smaller role in the depiction of angels and their glowing sphere
CONCLUSION

The Michael Trumpeters quartet and their success were influenced by the *Licht Cycle*. The trumpet’s role in Stockhausen’s music is influenced directly by his son Markus’ talents with the trumpet. While Stockhausen’s early orchestral pieces had little significance on the trumpet as a solo or dominant instrument, his other early works as well as his later ones such as his *Licht Cycle*, had a strong influence on the trumpet’s history during the last half of the twentieth century. It is the *Licht cycle* and the character Michael that brings such an emphasis to the trumpet.

By the time the *Licht cycle* was in its beginning the avant-garde trumpet’s role had already been elevated by many great composer’s such as Zimmermann and Berio. With a fast paced changing world these composer’s accomplishments would not raise the trumpet to the heavenly status given to it by Stockhausen. Markus and Stockhausen would lay down the ground-work for future composer’s to use as a model when looking to capture a feeling or story musically. There are not many other instruments that can project their sound with such powerful amplitudes, making the trumpet’s heavenly character it’s own.

Extended trumpet techniques found in these pieces include a multitude of options like; blowing, breathe rhythms, mutes, growls, muted grow, voice effects, and pedal tones. Smears and glissando can be created through sucking or blowing. Even short percussive types of rim short notes can be produced. The wide range of possibilities helps provide a larger expressive language to describe ideas more accurately than ever before. Stockhausen truly demonstrated an ability to expand musical vocabulary.
Trumpet music’s being drawn from the *Licht Cycle* does help to encourage action. For this reason many of the pieces above include more than just an oral aspect. There is also a visual part. These types of drama-induced performances add to the idea of avant-garde music and to the demands placed on the performers. The numeric associations are constantly present an in a example from *Dienstag aus Licht* gives another direct association to the number 7 and it’s importance to Stockhausen, but also space and sound are not given a traditional placement either.

The “Michael Trumpeters” influenced Karlheinz Stockhausens’ ideas as how to program concerts. He began envisioning trumpet quartets beginning and ending concerts. An example is the introduction notes of *Michael’s Call*, or *Michael’s Ruff* which state:

The four trumpeters should play Michael’s Call towards each other from the four cardinal points of an auditorium, ideally to open the concert. Another composition Trumpentent for 4 trumpeters (super formula of Mittwoch aus Licht, work 73 written in 1995) could be performed before the intermission, and the *Thursday Farewell* (*Michael’s Farewell*, work number 50 ¾) to end the concert. (Stockhausen *Trumpentent*)

Early in Stockhausen’s compositions the trumpet seemed to play no important role whatsoever. As he grew as a composer the trumpet factor increased dramatically. It was not until 1975 that the trumpet emerged as a dominant instrument in many of his pieces. Markus Stockhausen played had a considerable role in his father’s performances from 1975 until 1983. It was after their performance relationship declined that many trumpet pieces were added to the list that Stockhausen had already produced. Stockhausen’s use of staging, modern composition techniques, and electronic additions continue to influence future compositions. Most avant-garde trumpet compositions will always trace back to Stockhausen family.
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APPENDIX OF EXTENDED TRUMPET TECHNIQUE

Valve Techniques
- **Half valve** – notes performed with a valve (or valves) in a mid-stroke position.
- **Doit** – a short upwards “glissando” with no definite, ending pitch; usually performed using the half valve technique.
- **Smear** – similar to the doit, but played into a particular note, from underneath the written pitch.
- **Fall** – a glissando of sound created by moving the valves randomly.
- **Glissandi** – the playing of a “scale” to a particular note; can also be performed with half-valve, or with the embouchure.

Tonguing Techniques
- **Flutter tonguing** – the “rolling” on the tongue while playing.
- **Tongued tremolos** – playing the same note, repeated, and articulated with tongue.
- **Doodle tonguing** – a soft tonguing style produced by using the syllables “DooLoo”.
- **Double tonguing** – executed by pronouncing “TaKa” or “DuGu” syllables. Used for quicker note patterns and for efficiency at the player’s leisure.
- **Triple tonguing** – much like double tonguing, using the “TaTaKa”, DuDuGu” syllables (with a variety of combinations) and used at the leisure of the trumpeter.

Various Technique
- **Shake** – produced by literally “shaking” the horn throughout the note.
- **Circular Breathing** – a technique used to breathe in through the nose while the stored air in the cheeks enable the player to continue their airflow, enabling the performer to produce a constant sound without interruptions.
- **Removal of slides for performance** – to remove a tuning slide where indicated. Used for “false” sounds when different combinations are used.
- **Slapping** – an effect produced by slamming the valves down hard.
- **Air sounds** – produced by blowing air through the horn at various speeds.
- **Tapping** – the tapping of metal/woods/flesh, on the trumpet (usually the trumpet bell)

Mutes
- **Straight mute** – plastic, metallic, or a combination.
- **Cup mute** – comes in an adjustable & non-adjustable.
- **Harmon mute** – Cone shaped mute with a removable stem.
- **Whisper mute** – commonly used as a practice mute. Any soft mute works.
- **Hats** – hard hats, baseball caps, cowboy hats, anything to produce a different sound.
- **Plunger** – Shaped like a toilet plunger.
- **Solo-tone mute** – Produces a rustic timbre.
- **Tin can or aluminum plunger style mute** – a plunger with a brighter sound.
- **Plastic/medal lids** – a covered sound, effects pitch.
- **Stopped trumpet** – just like the French Horn, with the hand in the bell.
Embouchure/Lip Techniques

*Lip trill* – the fluctuating between two specified notes, usually separated by a second or on the same partial; actually executed using the tongue in conjunction with the embouchure.

*Bending* – the “bending” or manipulation of a notes pitch (intonation), either upwards or downwards.

*Microtones/quartertones* – produced using the bending approach; use of the embouchure to produce small degrees of nuance or intonation.

*Flip/Flop* – executed by playing one specified pitch and “flipping” upward, only to return to another specified note.

*Mouthpiece* – simply put, “buzzing” printed or non-printed notes.

*Extended upper register (clarino)* – extreme high notes; usually above high concert D.

*Extended lower register* – beginning at low F(3) natural.

Mouthpiece Techniques

*Popping* – striking the cup of the mouth-piece with the palm of the hand.

*Buzzing* – literally playing the mouthpiece, either specific or un-specified pitches.

*Whistle* – blowing through the opposite end of the mouthpiece may produce a whistle.

If not achieved in this manner, the player could blow across the end of the mouthpiece, *Mouthpiece* – “buzzing” printed or non-printed notes.

Vocal Sound Effects

*Multiphonics* – the singing of a certain specified pitch while playing another specified pitch – This gives the illusion of chordal harmonies.

*Growl* – making a “growling” sound, produced from the back of the throat.

It is a sound somewhat similar to flutter tonguing, but gives a more “dirty” timbre.

*Screaming* – to scream when playing.

*Breathing sounds* – to breathe audibly where indicated.

*Grunting* – not normally used but can be an additional effect.
VITA

Michael Berthelot received his Bachelor’s degree in trumpet performance, and his Master of Music in composition, from Louisiana State University. He has studied composition under Boyd Professor Dinos Constantinides, and Stephen David Beck. His brass studies have been with James West, and Joseph Skillen. The compositions of Michael Berthelot span a wide variety of idioms including string quartets, solo compositions, ensemble music, vocal works, symphonic works, and electronic projects. University and professional ensembles and recitalists around the country including The Louisiana Sinfonietta, and many other local solo artists have performed his works. Composition recitals included Baton Rouge Art gallery, LSU recital hall multiple times with electronic as well as acoustic composition premiers. In addition to these compositions Berthelot often writes middle school and high school level compositions for performances by local students. Berthelot’s additional activities are focused in education. He is a certified teacher in Louisiana by the Department of Education, and is owner of a small music academy, “Westside Music”. Currently he is music director of the Math, Science, and Arts Academy in Iberville Parish. Berthelot taught band at St John School for 2 years. This included many different responsibilities such as church organist, trumpeter, and music event organizer. Also Berthelot is currently employed by the Baton Rouge Symphony as a music teacher.