## INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand comer and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality $6^{\prime \prime} \times 9^{\prime \prime}$ black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

A Bell \& Howell Information Company 300 North Zeeb Road, Ann Arbor MI 48106-1346 USA 313/761-4700 800/521-0600

# UNIVERSITY OF OKLAHOMA <br> GRADUATE COLLEGE 

BACKGROUND, DESCRIPTION, AND ANALYSIS OF THE BALLET QUANAH

A Document
SUBMITTED TO THE GRADUATE FACULTY in partial fulfillment of the requirements for the
degree of Doctor of Musical Arts

By<br>CASEY SHAWN MCCLURE<br>Norman, Oklahoma<br>1997 copying under Title 17, United States Code.

## UMI

300 North Zeeb Road
Ann Arbor, MI 48103

BACKGROUND, DESCRIPTION, AND ANALYSIS OF THE BALLET QUANAH

A Document APPROVED FOR THE SCHOOL OF MUSIC
BY


## CONTENTS

List of Tables $\mathbf{v}$
Abstract vi
Introduction 1
Chapter 1. Historical Background 4
Chapter 2. Ballet Synopses 7
Chapter 3. Compositional Considerations ..... 12
Chapter 4. Structural Overview ..... 16
Chapter 5. Overview of Procedures ..... 19
Chapter 6. Procedures ..... 34
Chapter 7. Summary ..... 48
Bibliography. ..... 50
Appendix. The Musical Score for the Ballet: Quanah ..... 51

## LIST OF TABLES

Table 1. Instrument List and Abbreviations 24
Table 2. Pitch Combinations 25
Table 3. Grouping of Instruments for Layer 1 Before Chance Procedures 26
Table 4. Orchestration Models 27
Table 5. Results of Chance Operations for Vision 1, Layer 128
Table 6. Results of Chance Operations for Vision 2, Layer 129
Table 7. Results of Chance Operations for Vision 3, Layer 130
Table 8. Results of Chance Operations for Vision 4, Layer 131
Table 9. Results of Chance Operations for Layer 232
Table 10. Dynamic Level and Contour for Each Cell 33


#### Abstract

The ballet Quanah is a four-movement work based on the life of Quanah Parker, the last Comanche Chief. The synopses of the first and last movements portray the minutes preceding his death, while the synopses of the second and third movements are his flashbacks to two key events in his life: his role in the attack on the white buffalohunters at the Battle of Adobe Walls in 1874, and his part in the surrender of his tribe to the U.S. military in 1875.

To eliminate my subconscious dependence on three habitual cognitive paradigms, I divided my compositional process into two distinct parts: decisions affecting largescale boundaries and general content, and the use of chance procedures to determine small-scale relationships and specific values. Applying these new processes, I translated my original conception of the music accurately. The continual amalgamation of stasis and continuous change in the music reflects my desired ethic.


## INTRODUCTION

Quanah is a ballet for thirty players based on the life of Quanah Parker, the "last chief of the Comanche Indians."1 This ballet is not an effort at an historical description of Quanah's life, nor is the music intended to depict physical action onstage. Rather, the music represents Quanah's probable emotional and psychological states, created by conflicts between two competing social systems, embodied in his bi-racial heritage, and illustrated through scenes loosely based on events in his life.

I carefully combined distinct parameters of sound, making each element subject to the extreme polarities of musical comprehensibility: stasis and continuous change. The amalgamation of these two factors in the music represents the conflict between two competing social systems in the Southwestern United States in the 19th century. Stasis represents the traditional Native American life of the Plains Indians which had remained unaltered for centuries, and continuous change represents the encroaching white settlement on Indian lands which threatened imminent and interminable assimilation. Additionally, this musical duality is embodied in Quanah's bi-racial heritage and the inner

1. This quotation is taken from the monument beside his grave. Following Quanah's death, the Comanches were ordered to use a centralized council for government. William T. Hagan, Quanah Parker, Comanche Chief (Norman: University of Oklahoma Press, 1993), 122-123.
conflicts it likely caused while leading his tribe through the transition from a free, nomadic life to a limited, oppressive existence on the reservation.

Originally, I imagined music where stasis and continuous change were blended, in terms of each basic musical parameter, into a sparse, pristine musical environment. The desire to realize this conception accurately forced me to reconsider and eventually discard the compositional processes that I had used up to that time, as well as the underlying philosophies that supported those processes.

In Quanah, certain musical devices and conventions common throughout much of Western musical tradition are intentionally omitted by the composer. A listener will not find a melody or musical line of any type. Rhythms composed of relatively short durations in a cohesive, metrically-organized sequence are conspicuously absent. Fluctuation of dissonance and consonance is present, but it neither conforms to conventional patterns of harmonic direction, nor establishes a tonal center.

I used unconventional musical patterns to provide an extreme contrast to the traditional extra-musical materials. The intra-musical meaning (the perceived expression of the music separate from extra-musical associations) may seem vague or absent at first for many listeners due to their lack of familiarity with the musical patterns. Beyond the separation of the music into four movements, which I have termed "visions," the overall form is essentially static. Each vision lasts 7.5 minutes and displays a distinct scene.

The synopsis of the first vision describes the final minutes of Quanah's life. The synopses of the second and third visions are loosely based on two events which illustrate the diametric emotional conflicts Quanah probably suffered: his role in leading his people against buffalo hunters at the Battle of Adobe Walls in $1874^{2}$ in an effort to preserve their way of life, and his part in the surrender of his tribe to the U.S. military and his admonition towards their acceptance of reservation life in $1875 .{ }^{3}$ These two events represent the extremes of Quanah's responsibility toward his tribe. The synopsis of the final vision is a continuation of the first, ending with Quanah's death and funeral.

The music does not depict physical actions onstage and lacks obvious connections to events in the synopses which may be depicted by the dancers. While ballet is traditionally a narrative genre, the clear narrative structure in Quanah, provided by the synopses and physical actions onstage, conflicts with the music, which lacks a narrative structure. The resulting contrast will further emphasize the dualistic nature of Quanah's emotional and psychological states. The dancers should not depend on musical events for cues, other than using the overall duration of each vision to signal a change in scene. To create the structure of the dance within each vision, the choreographer should rely on the synopses to help make decisions concerning movement and character.
2. Ibid., 12-13.
3. Ibid., 15.

## CHAPTER 1

## Historical Background

Born circa 1852, ${ }^{4}$ Quanah was the eldest son of Chief Peta Nokoni and Cynthia Ann Parker, a white captive of the Quahada ${ }^{5}$ band of the Comanche tribe. Cynthia Ann, captured at the age of nine, was held by the tribe for almost twenty-five years. She and her youngest daughter, Prairie Flower, were "rescued" in 1861 and taken back to her family of origin in Texas. Frequently, Cynthia Ann tried to escape and return to the Comanches, whom she considered her true people. It is believed she died of grief in 1870, shortly after Prairie Flower's death. ${ }^{6}$

In 1867, the Comanche and Kiowa tribes were given the right to occupy lands reaching from the Canadian to the Red River by the U.S. government. ${ }^{7}$
4. This date is taken from his headstone. Some sources place his birth as early as 1845. William T. Hagan, Quanah Parker, Comanche Chief (Norman: University of Oklahoma Press, 1993) 7.
5. Different spellings of Comanche words are frequent. William S. Nye uses "Quahadi" in his book, Carbine and Lance: The Story of Old Fort Sill (Norman: University of Oklahoma Press, 1968), 28.
6. Hagan, Quanah Parker, 6-7.
7. Ibid., 10.

However, difficult conditions, such as pervasive white settlement on Indian lands, skirmishes with military outposts over jurisdictional disputes, and the disappearance of the buffalo, led to unrest in the Indian tribes of the area. ${ }^{8}$ Buffalo were an essential source of food and supplies, and held a great spiritual significance for the Plains Indians. The Quahada band attacked parties of white buffalo hunters and settlers from 1874 to 1875, attempting to regain use of their lands and stop eradication of the buffalo. These raids and their corresponding military responses are now called the Red River War. ${ }^{9}$ One of the most famous of these battles was at Adobe Walls in Texas, where Quanah had been instrumental in persuading other tribes to join the attack with the Comanches. Although failing to kill or drive away the hunters, the young Quanah fought bravely and achieved a higher status in the tribe. ${ }^{10}$

The strong military response to these outbreaks soon brought about the submission of the remaining bands. Seeing that efforts to resist were hopeless, Quanah accepted the terms offered by military scouts, and the Quahada became the last band of the Comanche tribe to accept reservation life under military control. Still led by Quanah, the tribe moved from the Staked Plains of Texas to Fort Sill, Oklahoma. An advance group which included Quanah arrived on May
8. Nye, Carbine and Lance, 187-188.
9. Hagan, Quanah Parker, 13.
10. Nye, Carbine and Lance, 190-191.

13, and the main body surrendered to the U.S. military on June $2,1875 .{ }^{11}$
After the surrender, Quanah quickly rose in popularity among other bands of Comanches and the U.S. military leadership. ${ }^{12}$ Surprisingly, he encouraged his people to adopt white man's civilization. He served as a member of the Indian police, went as a delegate to Washington many times, and was appointed one of the three Indian judges to the Court of Indian Offenses, established by the U.S. in $1888 .{ }^{13}$

Although he stated in public that he was in favor of prohibiting polygamy, it was well-known he engaged in this practice. He lived in a ten-room house near the Wichita mountains on several hundred acres stocked with cattle and horses. He died in 1991 and was buried in Post Oak Cemetery near Cache, Oklahoma, attended by over a thousand people representing several races. In 1926, Quanah's grave was relocated to Fort Sill along with those of his mother and sister. By an Act of Congress, a fifteen-foot granite tower was placed beside the burial site to honor his memory. ${ }^{14}$ Part of the inscription reads, "Resting here until day breaks and shadows fall and darkness disappears is Quanah Parker, last chief of the Comanches."
11. Hagan, Quanah Parker, 15.
12. Ibid., 15.
13. Ibid., 44 and 62-87.
14. Ibid., 122-125.

## CHAPTER 2

Ballet Synopses

Based on several of the events mentioned in the previous chapter, I formed dramatic images for four visions. Although the visions are based on Quanah's life, the first and last visions represent the present in terms of the dramatic exposition of the ballet. The second and third visions are Quanah's flashbacks to two important events in his life.

## Vision 1

Quanah's home near Cache, Oklahoma, 1911

Supported by two companions, Quanah carefully walks up the steps to his home. At that moment, he realizes he is about to die. His wives and children are waiting inside after another of his long trips, and are not prepared for his condition. As he steps through the door, he is struck by the clamor of anxious questions. His children escort him to a couch and help him remove his coat, and one of his wives kneels beside him and looks at him expectantly. Quanah tries to reassure her, but his words are cut short by a wrenching cough. The house
grows quiet.
A white doctor and Indian shaman arrive and take turns trying to help him, but both realize their efforts are in vain. With a final effort of will, Quanah raises his arm and sends the doctors away with a wave. He beckons to family members and they begin to say goodbye to him and offer prayers.

Quanah assuages his own fear of death by thinking of his accomplishments as the leader of his people. He thinks of his mother and looks at her picture on the wall. Slowly, as though he were sinking into a deep well, his consciousness slips away, and the voices around him fade into silence.

## Vision 2

Adobe Walls, Texas, 1874

Quanah looks down at the encampment formed by a small adobe structure surrounded by short walls. The area around the building is clear of trees and rocks. He knows that nothing can stop them. He knows the white buffalohunters will retreat behind the walls as soon as they realize they are being attacked, and he knows he will eventually kill them.

He had planned this raid for weeks. One of the tribal shamans had incited the people, but their anger had not been focused. Quanah rallied support and quickly organized the attack, persuading other tribes to join. This had been a surprisingly easy task. Because the buffalo were quickly disappearing, and the
lands given to his people were shrinking daily, they were convinced a show of force was necessary.

With a nod to the other warriors, Quanah begins the attack. The horses kick dust into the air and it rises into the morning sunlight. He sees the hunters turn as they hear the rumble of hooves, and he laughs as they frantically scramble behind the walls. He is still a quarter of a mile away when the first warrior falls. A moment later the report of a high-powered rifle echoes across the plain, and he realizes in an instant he has miscalculated.

They engage the enemy and several hunters are struck down. The last few white men retreat into the small building. Throughout the day, the warriors attack and retreat repeatedly, but inflict little damage. Though they try to ignite it with flaming arrows, the adobe building will not burn. The warriors quickly grow tired because the range of the hunters' rifles does not allow them to retreat far enough to rest. Quanah recognizes the futility of their situation and decides to break off the attack.

They are met with cheers and celebration in the Comanche camp. Although they did not succeeded, their bravery is hailed and Quanah is now considered a chief. But he knows this means the end of their way of life. The advances of the whites' weapons cannot be matched by the Indians, and the sheer numbers of settlers will soon overwhelm them.

## Vision 3

The Staked Plains of Texas, 1875

Although his people, the Quahada band of the Comanches, have avoided U.S. government control for one year after the battle at Adobe Walls, Quanah knows that resistance is futile and accepts terms offered by military scouts. He leads his people, with all of their belongings and herds, from the Staked Plains of Texas toward Oklahoma. The buffalo have been eradicated, so they slaughter several horses for food, and, to make matters worse, spring thunderstorms force them to stop and set up shelters.

Quanah faces the tribal elders and discusses their fate. They argue in favor of another uprising, but Quanah knows that the people are too weak and dispirited to fight. He convinces them to continue, but the difficult journey and the pending humiliation of surrender has strengthened their hatred of the whites. From hearing accounts of other tribes, Quanah knows the conditions that await them on a reservation: disease, crime, alcoholism, and lack of food. Unfortunately, they have no choice. They must learn to assimilate, or they will starve to death or be driven from their lands and killed to make room for more white settlements.

## Vision 4

Quanah's home near Cache, Oklahoma, 1911

The white doctor and Indian shaman make final desperate attempts to revive Quanah. Quanah can feel them working, but he knows their efforts are in vain. As his family mourns, the spirits of his youngest sister, Prairie Flower, whom he never knew, and his mother, Cynthia Ann, appear to him. They pull his spirit from his body and show him the afterworld that awaits him.

In a single glance, Quanah sees all of the events of his life in a timeless ballet. Each moment of his life is a transparent image, overlapping other events and slowly mixing in the swirl of memory, until melting together into a single image. As he watches, the white doctor and the Indian shaman pronounce his body dead. The scene of his death slowly transforms into his funeral and crowds materialize around his body. The scene fades and is enveloped by time.

## CHAPTER 3

## Compositional Considerations

My original musical conception for Quanah was a sparse, pristine environment which contained an amalgamation of stasis and continuous change within each basic musical parameter. I wanted to present an abstract and random character, yet retain concrete and sequential relationships. After several unsuccessful attempts to capture these qualities, I realized the procedures I was accustomed to using were not suitable for creating these conditions. Examining my compositional approach, I identified three basic cognitive paradigms that had been obstacles in my attempts to realize this work. My frequent use of several ideas, procedures, and methods had arisen out of habit, and I had often misused and exploited these without careful consideration of their application. In response, I restructured my decision-making process to guard against subconscious application of these paradigms.

The first paradigm was my dependence on using conventional patterns of musical syntax. The systems of organization used by a composer can become key elements in the way a listener perceives the music. These systems create networks of relationships between three basic parameters of sound - pitch, loudness, and timbre - and the single parameter shared by sound and silence -
duration. ${ }^{15}$ Schoenberg referred to a "tone" using the same characteristics: "pitch, duration, color, and dynamic."16

A listener, especially one experienced in Western musical tradition, groups sounds into musical events by an automatic comparison of similarities between the four basic parameters. The most easily grouped sounds are perceived as entities by a listener and become patterns for later comparison. They eventually become patterns of musical syntax that will be used to construct interpretations in later perceptions. In this model, perception is linked with recognition, a process that is based on previous knowledge and can lead to a type of "musical understanding." Schoenberg said, "Understanding is based on the capacity to recognize the similarity among the components to things that are familiar." ${ }^{17}$

Subconsciously, my habitual decisions led to music which adhered to accepted or conventional patterns of musical syntax. When I desired to elicit certain reactions from a listener, I was prone to make decisions based on my prediction of their capacity for attention, expectation, anticipation, or alertness, but more importantly, the probable amount and content of their previous listening experiences. I attempted to gauge potential listener responses, then provide

[^0]stimuli which I hoped would prompt the desired reaction through adherence to or violation of conventional patterns of musical syntax.

The second paradigm was my desire to generate linear relationships from a single source and combine them in a clear and consistent process of development in order to maintain unity throughout a work. Here, I am using the terms "process of development" to describe a specific musical phenomena: a series of connections between musical events which are easily perceivable as the music evolves by degrees into a more advanced state. Evolution and its opposite are conditions which correspond directly and continuously to the human experience.

I depended on basic compositional tools to manipulate source material and generate further musical ideas. Beginning with a small amount of source material, I applied one or more of the following techniques of variation to pitches and durations: retrograde, inversion, retrograde-inversion, augmentation, diminution, truncation, extension, and transposition. I then connected the results of these procedures to form a simple dramatic mechanism through time. Specifically, I created a sense of expectation using these techniques of variation, then either fulfilled the expectation with a repetition or further variation, or thwarted the expectation with contrasting material. Before Quanah, I often employed processes of development since they provided musical formations easily recognizable to a listener. These formations can be perceived within a series of changes to a single parameter or in a network of combinations among all four.

The third paradigm was my assumption that listeners' thoughts can and should be guided by their perception and recognition of a composer's thoughts represented by sound in time. My decisions were often motivated by the desire to predict potential intellectual and emotional reactions from the listener based on ideas gleaned from my own previous listening experiences, and then provoke these reactions with the music.

I believe previous listening experiences create a boundary represented by the extent of familiarity. Beyond this limit, a listener may have difficulty processing, understanding, or emotionally relating to the music. Since most contemporary composers have listened to a larger and more diverse body of works, the extent of their familiarity creates a boundary far beyond that of the average listener. The area between these two boundaries is a common battleground for many contemporary composers who "push the envelope" in terms of their audience's experience. The desire to be perceived as innovative may imply an insidious desire to control a listener's reactions. Often, I attempted to write a piece that balanced these two poles; one that was far enough beyond the audiences' boundaries of familiarity to be considered innovative, yet close enough that they could process, understand, or emotionally relate to the music.

I uncovered these habitual cognitive paradigms, then used processes which guarded against them. After this change in perspective, I translated my original musical conception accurately.

## CHAPTER 4

Structural Overview

Quanah is exactly thirty minutes in length, and is divided into four equal parts called visions, each lasting exactly 7.5 minutes. For the entire work, each consecutive set of five measures is designed as a single unit containing fifteen quarter-note beats in three-four time with a metronome marking of sixty beats per minute. These units, which I have termed "cells," do not overlap. Each vision contains exactly thirty cells for a total of 150 measures.

Only four pitches are used in the entire work, each confined to a single register. They are $C_{1}, F_{1}, C$-sharp $P_{2}$, and $E_{2}$. This single chord provides all harmonic material used for the entire work, creating a static harmonic character. Out of the fifteen possible combinations of this set (including single pitches,) one combination was determined using chance procedures for use in each layer of each cell.

In all four visions, varying combinations of instruments sustain pitches which they articulate simultaneously. Temporal connections between the events in each cell provide a protracted and unpredictable rhythmic relationship that inhibits a listener's ability to perceive a pulse or a sense of meter.

To capitalize on the timbral variation, the ensemble is composed of instruments of widely contrasting timbres: woodwinds, brass, and percussion. To achieve the effect of stasis, each vision is defined by a combination of these instrument families. To create the effect of continuous change, each cell features a different combination of instrumental colors within these families, causing each new event to seem like a timbral reinterpretation of previous events.

Two layers are delineated by differences in timbre, loudness, and duration. These layers remain separate and distinct throughout the entire piece. Layer One includes twelve woodwinds, nine brass, and twelve percussion instruments, both pitched and unpitched, while Layer Two includes marimba and piano only.

I used the three most basic dynamic contours in each cell: growth, stasis, and decay. The contours used in Layer One for each vision are decay, growth, stasis, and decay, respectively. Contours used in Layer Two for each vision, respectively, are stasis, decay, growth, and stasis.

In Layer One, durations vary only from nine to fifteen total beats per cell, and always begin on beat one of each cell. In Layer Two, the point of articulation of each pitch combination is left to chance, while durations vary from one to eleven beats.

Typically in a large work, a listener would expect to hear variation in the length of each movement and number of measures, changes in the role of tone color between primary and subordinate, transpositions of pitch content, and nonrepetitive dynamic contours. While the framework will be perceived as rigid and static due to these expectations, the constantly shifting relationships of attack and
duration, pitch combinations, and mixtures of timbre create a simultaneous atmosphere of complete mutability.

## CHAPTER 5

## Overview of Procedures

To eliminate my subconscious dependence on the cognitive paradigms discussed in Chapter Three, I divided my compositional process into two distinct parts: decisions and the use of chance procedures. My decisions affected largescale and small-scale boundaries and content, while I determined specific values using chance procedures. All decisions were made before using chance procedures.

Decisions can be divided into four categories: decisions affecting the entire work and both layers, decisions affecting each vision and each layer, decisions affecting only Layer One, and decisions affecting only Layer Two. Chance procedures can be divided into three categories: procedures affecting the entire work and each layer, procedures affecting only Layer One, and procedures affecting only Layer Two.

Decisions affecting the entire work and both layers were made first. These decisions involved choosing the ensemble, pitch language, texture, temporal structure and form, and the relative density of activity.

I selected the ensemble first. It consists of woodwinds, brass, and percussion instruments. ${ }^{18}$ The content of the ensemble is similar to orchestral woodwinds and brass with an enlarged complement of percussion, providing a wide variety of tone colors. The use of standard instruments in reasonable numbers offered a greater possibility of performance.

I created a single set of four pitches, confined each to a single register, and outlined the fifteen possible combinations including single pitches. The decision to use a limited set of harmonies derived from a single four-pitch set was intended to avoid creating patterns of harmonic direction, or any type of tonal hierarchy. ${ }^{19}$

I created two independent layers of activity, each made distinct primarily through timbre, but also with independent decisions and procedures involving duration. I made no attempt to synchronize or correlate the layers when making decisions or using chance procedures to determine timbre, dynamic contour, or duration. I deliberately avoided using linear constructions of pitch and rhythm due to my propensity toward relying on techniques of variation.

To outline the overall temporal structure, I established the tempo and length, which I divided into four equal parts, then divided each part into thirty equal segments of five measures each. I avoided the perception of linear activity by limiting the number of events in each cell to one per layer, creating a texture
18. See Table 1.
19. See Table 2.
too sparse to perceive linear connections easily. In all cells, pitches in each layer are articulated simultaneously.

Decisions affecting each vision and layer concerned dynamic contours and the division of the ensemble in regard to form. I chose four independent dynamic contours for each layer throughout the work, one for each vision. I applied each contour to every cell within a vision.

I arranged the instruments to give each vision a distinct timbral identity through the combination of color. Rather than maintain a consistent mixture of timbres throughout Quanah, I omitted one or two entire families of instruments from the first, third, and fourth visions to ensure that each of these movements would have a distinct timbral identity. Only Vision Two utilizes all families of instruments betraying a typical Western listener's expectation that I build timbral complexity to create a climax later in the work.

Decisions affecting only Layer One involved boundaries for the placement and duration of silence, grouping of timbres in preparation for chance procedures, the number of pitches played by each instrument per cell, and the use of orchestration models.

In Layer One, I set limits for chance procedures concerning the amount and placement of silence, and decided to allow the result of those procedures to dictate the duration of sound within that cell. Given the finite amount of time in each cell, a longer amount of silence would mean a shorter amount of sound, and vice-versa. For example, in cell six of Vision One, the six beats of silence as determined by chance were placed at the end of the cell, leaving a duration of
nine beats for the pitches played by the oboe and crotales.
I separated timbres into four groups to facilitate chance procedures: woodwinds, brass, and two groups of percussion. Each group contains six color choices which correspond easily to the six sides of a die. ${ }^{20}$

Woodwind and brass instruments are limited one pitch per cell throughout the work. Chromatic percussion instruments play single or multiple pitches as needed. Both the marimba and piano in Layer Two play all pitches present in each cell.

To avoid isolating similar timbres in the same register, I used five orchestration models as guides in applying the timbral choices to the pitch combination. The models are based on the five basic ways to orchestrate a chord: doubling, overlocking, interlocking, overlapping, and separate. ${ }^{21}$

Decisions affecting only Layer Two involved limitations of timbre and duration. First, I created a stable timbral character by limiting my choices to the use and combination of Marimba and Piano only. Next, all durations in Layer Two were the result of single decisions for each vision and instrument. Overall, the durations for each instrument are identical but opposite with respect to the four visions. Piano is tacet in Vision One, sustains its pitches in Vision Two, and plays staccato in Visions Three and Four. Conversely, Marimba plays staccato in Visions One and Two, sustains its pitches in Vision Three, and is tacet in Vision
20. See Table 3.
21. See Table 4.

Four.
Only one set of chance procedures affected the entire work: those used to determine all pitch combinations. Two pitch combinations were determined for each cell, one for each layer. ${ }^{22}$

Chance procedures affecting only Layer One involved three factors: timbre, duration, and orchestration. I used chance procedures to determine the instruments used in each cell, the durations of silence in each cell of Visions One, Three, and Four (in Vision Two, Layer One has no silence,) and an orchestration model for each cell in Visions One, Two, and Three (in Vision Four, Layer One has only one pitched instrument per cell.) For each set of procedures, I rolled a die and recorded the results as noted in Tables Three through Six.

The chance procedures that determined a pitch combination for each cell also determined the placement of each chord in Layer Two. Each chord was placed on the beat within each cell that corresponded with its order in Table One (i.e., pitch combination one was placed on beat one, combination two was placed on beat two, etc.)

[^1]
## TABLE 1

## INSTRUMENT LIST AND ABBREVIATIONS

| 4 Flutes | Fl |  |
| :---: | :---: | :---: |
| 3 Oboes | Ob |  |
| English Horn | EH |  |
| 4 Clarinets in Bb | Cl |  |
| Bass Clarinet | BC |  |
| 3 Bassoons | Bn |  |
| 4 Horns in F | Hn |  |
| 2 Trumpets in Bb | Tp |  |
| 2 Trombones | Tn |  |
| Tuba | Tb |  |
| Percussion 1 | Pc 1 |  |
| Vibraphone | Vb |  |
| Tam-Tam | TT |  |
| Wood Block | WB |  |
| Cowbell | Cb |  |
| Percussion 2 | Pc 2 |  |
| Tubular Bells | TB | (sounding one octave higher than written) |
| Wind Chimes | WC |  |
| Tambourine | Tm |  |
| Suspended Cymbal | SC |  |
| Percussion 3 | Pc 3 |  |
| Crotales | Ct | (sounding two octaves higher than written) |
| Triangle | Tg |  |
| Shaker | Sh |  |
| Bass Drum | BD |  |
| Marimba | Ma |  |
| Piano | Pn |  |
| The score is in C . |  |  |

TABLE 2

## PITCH COMBINATIONS



## GROUPING OF INSTRUMENTS IN LAYER 1 BEFORE CHANCE PROCEDURES

Woodwind

1. Flute
2. Oboe
3. English Horn
4. Clarinet in Bb
5. Bass Clarinet in $\mathbf{B b}$
6. Bassoon

Percussion Group 1

1. Vibraphone
2. Crotales
3. Tubular Bells
4. Tam-Tam
5. Wind Chimes
6. Triangle

## Brass

1. Trumpet
2. Muted Trumpet
3. Horn in $F$
4. Horn in F (cuivré)
5. Trombone
6. Tuba

Percussion Group 2

1. Wood Block
2. Shaker
3. Tambourine
4. Suspended Cymbal
5. Cowbell
6. Bass Drum

## TABLE 4

## ORCHESTRATION MODELS



## TABLE 5

## RESULTS OF CHANCE OPERATIONS FOR VISION 1, LAYER 1

Cell Number Pitch Combination Instruments

| 1. | 15 | $\mathrm{Ct} / \mathrm{Bn}^{23}$ | 3 | 2 |
| :---: | :---: | :---: | :---: | :---: |
| 2. | 7 | TT/Fl | 5 | 5 |
| 3. | 1 | WC/EH | 1 | 1 |
| 4. | 7 | WC/BC/Cl | 5 | 3 |
| 5. | 11 | TT/Cl | 1 | 3 |
| 6. | 7 | $\mathrm{Ct} / \mathrm{Ob}$ | 3 | 6 |
| 7. | 3 | TT/Cl | 4 | 3 |
| 8. | 8 | TB/Bn | 4 | 4 |
| 9. | 10 | TB/Fl | 1 | 4 |
| 10. | 1 | TT/Fl | 1 | 2 |
| 11. | 15 | WC/EH/Ob | 1 | 3 |
| 12. | 8 | TT/BC/Cl | 1 | 6 |
| 13. | 3 | $\mathrm{Ct} / \mathrm{Cl}$ | 3 | 6 |
| 14. | 15 | TT/Bn/Cl | 1 | 3 |
| 15. | 5 | TT/EH/Ob | 5 | 2 |
| 16. | 7 | $\mathrm{Ct} / \mathrm{EH}$ | 5 | 2 |
| 17. | 8 | $\mathrm{Ct} / \mathrm{EH}$ | 3 | 4 |
| 18. | 5 | TB/Fl | 5 | 5 |
| 19. | 14 | $\mathrm{Ct} / \mathrm{Bn}$ | 1 | 2 |
| 20. | 6 | $\mathrm{Ct} / \mathrm{Fl}$ | 4 | 6 |
| 21. | 7 | TB/EH | 4 | 6 |
| 22. | 1 | TB/Ob | 1 | 6 |
| 23. | 9 | $\mathrm{Vb} / \mathrm{Fl}$ | 5 | 4 |
| 24. | 6 | TT/Cl | 3 | 3 |
| 25. | 3 | $\mathrm{Ct} / \mathrm{Fl}$ | 4 | 2 |
| 26. | 14 | WC/Cl | 1 | 2 |
| 27. | 7 | TT/BC/EH | 5 | 2 |
| 28. | 2 | $\mathrm{Ct} / \mathrm{Bn}$ | 2 | 1 |
| 29. | 4 | $\mathrm{Vb} / \mathrm{Fl}$ | 1 | 2 |
| 30. | 7 | TT/EH/Ob | 5 | 2 |

23. Refer to Table 1 for instrument abbreviations.

TABLE 6
RESULTS OF CHANCE OPERATIONS FOR VISION 2, LAYER 1

Cell Number Pitch Combination Instruments

1. 4
2. 13
3.4
$4 . \quad 7$
5.14
6.10
$7 . \quad 7$
8.15
9.1
3. 3
$11 . \quad 1$
4. 2
13.12
14.13
$15 . \quad 8$
16.14
$17 . \quad 4$
$18 . \quad 3$
$19 . \quad 1$
$20 . \quad 8$
$21 . \quad 9$
5. 13
6. 13
$24 . \quad 2$
$25 . \quad 3$
$26 . \quad 2$
27.15
28.13
7. $\quad 9$
30.8
$\mathrm{SC} / \mathrm{Cl} / \mathrm{Tp}$
$\mathrm{Sh} / \mathrm{Ob} / \mathrm{Hn} \mathrm{cv}{ }^{24}$
$\mathrm{Tm} / \mathrm{Ob} / \mathrm{Tp}$
$\mathrm{Sh} / \mathrm{Cl} / \mathrm{Tp}$
$\mathrm{Tm} / \mathrm{Cl} / \mathrm{Tn}$
BD/Ob/Tp
$\mathrm{Sh} / \mathrm{Cl} / \mathrm{Hn}$
WB/BC/Cl/Tp 1
$\mathrm{WB} / \mathrm{EH} / \mathrm{Hn} 4$
Tm/Fl/Tp
4
$\mathrm{Sh} / \mathrm{Ob} / \mathrm{Hn} \quad 3$
$\mathrm{WB} / \mathrm{Ob} / \mathrm{Tp} \quad 5$
$\mathrm{Tm} / \mathrm{Bn} / \mathrm{Tp} \quad 3$
$\mathrm{BD} / \mathrm{Cl} / \mathrm{Tb} 3$
$\mathrm{WB} / \mathrm{Cl} / \mathrm{Tp} \mathrm{mt}^{25} \quad 2$
$\mathrm{Tm} / \mathrm{Ob} / \mathrm{Tn} \quad 5$
$\mathrm{Sh} / \mathrm{Ob} / \mathrm{Tp} \quad 2$
$\mathrm{Tm} / \mathrm{Ob} / \mathrm{Tp} \quad 4$
$\mathrm{Tm} / \mathrm{Ob} / \mathrm{Tp} \mathrm{mt} \quad 2$
$\mathrm{Cb} / \mathrm{Fl} / \mathrm{Tn} \quad 3$
$\mathrm{SC} / \mathrm{Fl} / \mathrm{Tn} 2$
$\mathrm{BD} / \mathrm{BC} / \mathrm{Tp} 4$
$\mathrm{BD} / \mathrm{Cl} / \mathrm{Hn} \mathrm{cv} \quad 4$
$\mathrm{WB} / \mathrm{Ob} / \mathrm{Tp} \quad 5$
$\mathrm{Tm} / \mathrm{EH} / \mathrm{Tp} \quad 3$
$\mathrm{Tm} / \mathrm{Bn} / \mathrm{Tn} 2$
$\mathrm{Sh} / \mathrm{Cl} / \mathrm{Tp} \quad 2$
$\mathrm{Cb} / \mathrm{Cl} / \mathrm{Tn} \quad 5$
$\mathrm{Cb} / \mathrm{Fl} / \mathrm{Tp} \quad 2$
$\mathrm{SC} / \mathrm{Fl} / \mathrm{Hn} \mathrm{cv} \quad 4$
8. Cuivré; brassy.
9. Muted.

TABLE 7
RESULTS OF CHANCE OPERATIONS FOR VISION 3, LAYER 1


## TABLE 8

## RESULTS OF CHANCE OPERATIONS FOR VISION 4, LAYER 1

| Cell | Number Pitch Comb. Instruments | Silence |  |
| :--- | :--- | :--- | :--- |
| 1. | 7 | TT/SC | 5 |
| 2. | 14 | $\mathrm{WC} / \mathrm{Tm}$ | 2 |
| 3. | 7 | $\mathrm{~TB} / \mathrm{Cb}$ | 3 |
| 4. | 9 | $\mathrm{WC} / \mathrm{Cb}$ | 5 |
| 5. | 9 | $\mathrm{Ct} / \mathrm{Sh}$ | 4 |
| 6. | 2 | $\mathrm{WC} / \mathrm{Cb}$ | 5 |
| 7. | 7 | $\mathrm{TT} / \mathrm{Cb}$ | 4 |
| 8. | 6 | $\mathrm{Tg} / \mathrm{Sh}$ | 3 |
| 9. | 12 | $\mathrm{Vb} / \mathrm{Tm}$ | 4 |
| 10. | 5 | $\mathrm{Ct} / \mathrm{WB}$ | 5 |
| 11. | 10 | $\mathrm{Ct} / \mathrm{Cb}$ | 2 |
| 12. | 14 | $\mathrm{Ct} / \mathrm{BD}$ | 4 |
| 13. | 6 | $\mathrm{Tg} / \mathrm{Sh}$ | 2 |
| 14. | 8 | $\mathrm{~TB} / \mathrm{WB}$ | 5 |
| 15. | 2 | $\mathrm{TT} / \mathrm{Cb}$ | 5 |
| 16. | 9 | $\mathrm{Tg} / \mathrm{BD}$ | 1 |
| 17. | 8 | $\mathrm{Vb} / \mathrm{BD}$ | 4 |
| 18. | 15 | $\mathrm{Tg} / \mathrm{Tm}$ | 3 |
| 19. | 12 | $\mathrm{TT} / \mathrm{WB}$ | 2 |
| 20. | 7 | $\mathrm{~TB} / \mathrm{WB}$ | 4 |
| 21. | 3 | $\mathrm{WC} / \mathrm{Sh}$ | 5 |
| 22. | 10 | $\mathrm{WC} / \mathrm{Sh}$ | 3 |
| 23. | 13 | $\mathrm{WC} / \mathrm{Sh}$ | 6 |
| 24. | 8 | $\mathrm{WC} / \mathrm{Cb}$ | 6 |
| 25. | 11 | $\mathrm{Ct} / \mathrm{WB}$ | 4 |
| 26. | 3 | $\mathrm{TT} / \mathrm{Sh}$ | 3 |
| 27. | 13 | $\mathrm{Tg} / \mathrm{BD}$ | 5 |
| 28. | 15 | $\mathrm{Ct} / \mathrm{BD}$ | 2 |
| 29. | 8 | $\mathrm{WC} / \mathrm{Tm}$ | 3 |
| 30. | 6 | $\mathrm{Vb} / \mathrm{Tm}$ | 6 |

## RESULTS OF CHANCE OPERATIONS FOR LAYER $\mathbf{2}^{26}$

| Vision 1 |  | Vision 2 |  | Vision 3 |  | Vision 4 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | 14 | 1. | 3 | 1. | 15 | 1. | 2 |
| 2. | 12 | 2. | 7 | 2. | 4 | 2. | 2 |
| 3. | 6 | 3. | 3 | 3. | 9 | 3. | 10 |
| 4. | 7 | 4. | 10 | 4. | 2 | 4. | 8 |
| 5. | 8 | 5. | 13 | 5. | 9 | 5. | 14 |
| 6. | 15 | 6. | 14 | 6. | 3 | 6. | 10 |
| 7. | 10 | 7. | 5 | 7. | 10 | 7. | 4 |
| 8. | 1 | 8. | 15 | 8. | 7 | 8. | 3 |
| 9. | 4 | 9. | 7 | 9. | 10 | 9. | 8 |
| 10. | 11 | 10. | 15 | 10. | 5 | 10. | 5 |
| 11. | 8 | 11. | 11 | 11. | 12 | 11. | 11 |
| 12. | 3 | 12. | 5 | 12. | 4 | 12. | 10 |
| 13. | 5 | 13. | 6 | 13. | 12 | 13. | 4 |
| 14. | 3 | 14. | 9 | 14. | 14 | 14. | 7 |
| 15. | 3 | 15. | 9 | 15. | 12 | 15. | 6 |
| 16. | 2 | 16. | 7 | 16. | 6 | 16. | 14 |
| 17. | 6 | 17. | 6 | 17. | 7 | 17. | 1 |
| 18. | 15 | 18. | 2 | 18. | 2 | 18. | 11 |
| 19. | 14 | 19. | 14 | 19. | 5 | 19. | 1 |
| 20. | 14 | 20. | 10 | 20. | 8 | 20. | 14 |
| 21. | 14 | 21. | 3 | 21. | 11 | 21. | 8 |
| 22. | 10 | 22. | 8 | 22. | 4 | 22. | 5 |
| 23. | 2 | 23. | 15 | 23. | 2 | 23. | 4 |
| 24. | 7 | 24. | 1 | 24. | 9 | 24. | 7 |
| 25. | 14 | 25. | 11 | 25. | 4 | 25. | 13 |
| 26. | 11 | 26. | 2 | 26. | 9 | 26. | 1 |
| 27. | 4 | 27. | 7 | 27. | 1 | 27. | 3 |
| 28. | 8 | 28. | 8 | 28. | 3 | 28. | 13 |
| 29. | 3 | 29. | 4 | 29. | 2 | 29. | 5 |
| 30. | 11 | 30. | 11 | 30. | 8 | 30. | 5 |

26. The first number of each column refers to the cell number in each vision, the second refers to the pitch combination as well as the beat placement within each cell. Refer to Table 1 for corresponding pitch combination.

## TABLE 10

## DYNAMIC LEVEL AND CONTOUR FOR EACH CELL

## Layer 1

Vision 1 pianissimo, diminuendo to niente Vision 2 piano, crescendo to forte Vision 3 piano, static
Vision 4 pianissimo, diminuendo to niente

## Layer 2

Vision 1 pianissimo
Vision 2 forte, diminuendo to niente Vision 3 piano, crescendo to mezzo-forte Vision 4 pianissimo

## CHAPTER 6

Procedures

I. Decisions<br>I.A. Decisions Affecting The Entire Work And Both Layers

I.A.1. Ensemble

I scored Quanah for twelve woodwinds, nine brass, thirteen percussion instruments, and piano. The woodwinds include four flutes, three oboes, an English Horn, four clarinets in B-flat, a bass clarinet in B-flat, and three bassoons. The brass instruments include four French horns in F, two trumpets in B-flat, two trombones, and a tuba. The percussion instruments are divided between four players: Percussion One plays vibraphone, wood block, cowbell, and tam-tam; Percussion Two plays tubular bells, wind chimes, tambourine, and suspended cymbal; Percussion Three plays crotales, triangle, shaker, and bass drum; and the fourth percussionist, assigned to Layer Two, plays marimba only.

To create constant alteration of timbre, I focused on the wide variety of tone colors offered by the woodwind, brass, and percussion instruments. Although strings might have offered a wider array of effects, the overall similarity
in timbres between the standard stringed instruments would not conform as readily to my need for timbral alteration. The arrangement I used is typical of an orchestral complement of woodwinds, brass, and percussion instruments.

## I.A.2. Pitch

I chose to use only four pitches in Quanah: $C_{1}, F_{1}, C$-sharp ${ }_{2}$, and $E_{2}$. Each pitch is always confined to a single register (i.e., the notes of the set are not treated as pitch classes.)

Figure 1. Pitch Set


Although the tubular bells and crotales sound one and two octaves higher than written, respectively, I treated this as a timbral quality rather than a difference in pitch. I outlined the fifteen possible combinations of this set in a sequence: four single pitches, six two-note combinations, four three-note combinations, and one four-note combination. These provide all harmonic
material used in the entire work. ${ }^{27}$
This continual use of fifteen pitch combinations derived from only four pitches captures the duality of my original conception: the overall harmonic effect and the changing pitch combinations reflect stasis and continuous change, respectively. The pitch set contains six intervals: a perfect fourth, a diminished ninth, a major tenth, a minor sixth, and a minor third. These intervals correspond to the pitch combinations numbered five through ten in Table One.

## I.A.3. Texture

I conceived and realized two layers independently, then superimposed them. Both layers of activity are present at all times, defined only by timbre, dynamic contour, and duration. I made no attempt to synchronize or correlate these factors between layers. In each cell, I chose distinct dynamic contours and durations for each layer. The same contour and duration is repeated in all cells for that vision, regardless of any other changes. Within each cell, all instruments of a single layer play identical durations and dynamic contours.

## I.A.4. Temporal Structure and Form

I used large-scale decisions about temporal structure to impose the organizational groundwork for durations throughout the work. Just as a scaffold is erected to aid in the construction of a building, I used these temporal decisions as a structure or mold to help manage the amounts and placement of sound and silence. First, I set the clock-time length of the entire work at thirty minutes, which I divided into four 7.5 minute parts, or visions. Based on a tempo of sixty beats per minute, I then divided each vision into 150 measures in three-four time, which I grouped into five-measure units called cells. For the entire work, each of the 120 cells contains fifteen quarter-note beats and is fifteen seconds long.

For the convenience of the performers and to maximize the use of rehearsal time, I used conventional time signatures, measures, and beats. Just as easily, the music could have been translated into "clock-time" score markings, but would have entailed longer rehearsal times, especially for inexperienced performers.

## I.A.5. Density of Activity

I avoided linear activity by limiting the number of events in each cell to one per layer. In all visions, all pitches in each cell of Layer One occur simultaneously on the first beat, and are sustained for a period determined by chance. The time from the articulation of one chord to the next new chord in

Layer One is always fifteen seconds, the length of a single cell. The pitches in Layer Two are also articulated together within each cell, but not necessarily with those in Layer One.

## I.B. Decisions Affecting Each Vision and Layer <br> I.B.1. Dynamic Contours

To help differentiate the layers, I used contrasting dynamic levels and contours. Within each vision, I chose two dynamic contours for each cell: one for each layer. ${ }^{28}$ Throughout the work, I used only the three most basic dynamic contours: growth, stasis, and decay. The contours used in Layer One for each vision, respectively, are decay, growth, stasis, and decay. Contours used in Layer Two for each vision, respectively, are stasis, decay, growth, and stasis.

The process of dynamic growth on percussion instruments was achieved by rolls; the natural decay of a single strike on most percussion instruments created the desired diminuendo, while a steady roll or staccato articulation provided the effect of stasis.

Throughout the work, Layer One begins softly in all cells. For Layer Two, I chose dynamic levels and contours to complement Layer One, yet provide enough contrast to allow the marimba and piano to be heard. Vision One is soft
28. See Table 10.
overall with a diminuendo to silence (niente) in Layer One. In Vision Two, the Layers have opposite contours providing the greatest amount of contrast: the instruments of Layer One play a crescendo in each cell, while the sustained notes of the piano in Layer Two decay to silence. Vision Three provides a catharsis to the constant crescendos in Layer One. Here, Layer One is dynamically static while the marimba in Layer Two has a slight crescendo. Vision Four is identical in dynamic shape to Vision One.

## I.B.2. Division of the Ensemble for Each Vision

I arranged the instruments to give each vision a distinct timbral identity through the combination of color: Vision One includes winds, percussion, and marimba, Vision Two has the greatest density of timbre because it includes all instruments, Vision Three includes winds, brass, piano, and marimba, and Vision Four contains only percussion instruments and piano.

## I. C. Decisions Affecting Layer One

I.C.1. Boundaries for the Duration and Placement of Silence

Throughout Layer One, I used chance procedures concerning silence in each cell to dictate the duration of each sound. I set limits for the amount and placement of silence in each cell before applying chance procedures. I decided
that the duration of each chord in Layer One would be fifteen beats minus the amount of silence determined by chance.

In Visions One, Three, and Four, I limited the amount of silence in Layer One to between one and six beats, then rolled a die to determine the result. In Visions One and Four, I placed this amount at the end of each cell. In Vision Three, I allowed the placement of silence within each cell to be determined by chance. Vision Two has no breaks within cells in Layer One.

## I.C.2. Grouping of Timbres in Preparation for Chance Procedures

To facilitate chance procedures, I increased the number of instrument choices in each family and organized them into four groups. ${ }^{29}$ Percussion Group One is composed of pitched and unpitched metal instruments, while Percussion Group Two contains only unpitched instruments of various types. Each percussion group contains six color choices which correspond easily to the six sides of a die. To increase the number of timbral choices in the brass family to six, muted Trumpet and cuivré Horn were added for their distinctive colors.
29. See Table 3.

## I.C.3. Limitation of Instruments


#### Abstract

In Layer One of Visions One and Three, I used the fewest possible wind and brass instruments from the available choices. Whenever possible, I used only one instrument per pitch. In Vision Two, all available instruments from the chosen instrument type were used, regardless of the pitch combination chosen.

I limited each layer to one pitch combination per cell. In Vision Three, Layer One usually contains two events per cell due to the placement of silence, but all woodwind and brass instruments re-articulate the same pitch. Chromatic percussion instruments in Layer One play single or multiple pitches as needed. In Layer Two, both the piano and marimba play all pitches present in the combination chosen for each cell.


## I.C.4. Orchestration Models

To avoid isolating similar timbres in the same register, I used a set of orchestration models. ${ }^{30}$ I orchestrated the instrumental choices in each cell of Layer One by choosing a model for each cell using chance procedures. ${ }^{31}$ The models are based on the five basic ways to orchestrate a chord: doubling,
30. See Table 4.
31. See Tables 5 through 7.
overlocking, interlocking, overlapping, and separate. When a cell in Layer One contained only one pitch, an orchestration model was not used. It was not necessary to apply a model to Vision Four, because a maximum of one instrument per cell in Layer One was pitched. Throughout Layer Two, both instruments play all pitches, so it was unnecessary to apply a model.

## I.D. Decisions Affecting Layer Two

## I.D.1. Timbre

In contrast to Layer One, I created a stable timbral character in Layer Two by using on large-scale decisions. Only the marimba plays in Vision One. In Vision Two, it is joined by the piano which doubles all pitches and sustains each chord. In Vision Three, the marimba sustains each chord by rolling while the piano accents each entrance by doubling all pitches. The piano is alone in Vision Four.

## I.D.2. Duration

The durations for Layer Two did not involve chance procedures, but were the result of large-scale decisions, each affecting a single vision. The marimbist
and pianist play staccato in Visions One and Four, respectively. In Visions Two and Three, a pair of contrasting durations is presented in each cell by these instruments. In Vision Two, the marimbist plays the pitches staccato while the pianist sustains the pitches for the remaining beats of the measure plus nine additional beats. These roles are reversed in Vision Three, where the pianist plays staccato while the marimbist sustains the pitches for the same duration by rolling. The sustained chords of the piano and marimba in Visions Two and Three frequently overlap the entrances of the woodwind, brass, and percussion instruments. This tends to blur cell boundaries and provide further contrast to the first and last visions. The solo piano plays staccato in Vision Four.

## II. Chance Procedures

## II.A. Chance Procedures Affecting The Entire Work and Both Layers II.A.1. Pitches

Beginning with the fifteen pitch combinations, I numbered each combination, including single pitches. Then, to conform the combinations to the numbers on a die, I divided them into three groups numbered one through five, six thought ten, and eleven through fifteen. I then assigned two numbers on the die to each five-combination group (one and six on the die corresponded to the group, two and five to the second, etc.) After narrowing the choices to a fivecombination group, I rolled a die to determine a pitch choice for one cell and one layer. I then repeated this process for the second layer of the same cell, and recorded the results in Tables Three through Seven. Through this set of chance procedures, I determined the total number of notes played in each cell by both layers. Because of the nature of chance procedures, pitch combinations repeat occasionally from one cell to the next, but only emphasize the character of harmonic stasis.

## II.B. Chance Procedures Affecting Layer One <br> II.B.1. Timbre

Based on the four timbral groups described above, I rolled a die to determine the instruments that would be used to present the pitch, dynamic contour, and duration for each cell of Layer One. I recorded the results in Tables Three through Six.

The results of chance procedures often created a need for the same woodwind or brass instruments to play in consecutive cells. When this occurred, I divided the instrument families as necessary to allow each performer adequate time to breathe. Occasionally, pitch combinations were out of range of the lower brass instruments. When this occurred, I applied chance operations to decide between Trumpet and Muted Trumpet only. When there weren't enough pitched instruments to support the pitch combination chosen, I added instruments using additional chance procedures.

## II.B.2. Duration and Placement of Silence

In Layer one, the durations of silence in each cell of Visions One, Three, and Four were determined through the use of chance procedures. I rolled a die and recorded the result of between one and six beats in Tables Three through Six. This amount was subtracted from the total duration of each cell, fifteen beats,
thereby determining the duration of the sound.
In Vision Three, I determined the placement of silence using chance procedures as well. The silence could have occurred at any point within each cell, thereby interrupting the sustained chord in Layer One. I rolled a die a second time to determine the measure where the silence would begin in each cell, always beginning the silence on beat one of a measure. ${ }^{32}$ This often resulted in a rearticulation of the chord in that Layer One, producing intermittent drones.

## II.B.3. Orchestration Models

For each cell in Visions One, Two, and Three, I rolled a die to select an orchestration model from the set of five described above, and recorded the result in Tables Three through Five. It was not necessary to apply models to Vision Four, where a maximum of one instrument per cell in Layer One was pitched.
32. See Table 7.

## II.C. Chance Procedures Affecting Layer Two

II.C.1.

Indirectly, chance procedures helped to determine the placement of each event within each cell in Layer Two. Within each cell, each pitch combination was placed on the beat that corresponded to its order in Table One. Single pitches occur on beats one through four, two-note combinations occur on beats five through ten, three-note combinations occur on beats eleven through fourteen, and the four-note combination occurs on beat fifteen. This creates a distinctive aural pattern: the time interval between the chords in each cell is dependent on the number of pitches in each chord in Layer Two. This method bears a resemblance to the time-point system of rhythmic serialization used by Milton Babbitt, where events are numbered according to row order and placed on corresponding beat sub-divisions in each measure. ${ }^{33}$

The use of this procedure blurred cell boundaries in Visions Two and Three where pitches are sustained in Layer Two. When a pitch combination of eight or greater was chosen, the event was placed on later beats within the cell causing its duration to overlap the next cell. The duration was shortened only if another pitch entrance occurred within the sustained period.

[^2]
## CHAPTER 7

## Summary

The acts of composing and listening are combinations of thought and emotion, influenced by experience. A composer's decisions, like a listener's reactions, whether conscious, intuitive, tacit, conceptual, or purely accidental, are a discrete product of that individual's volition, feeling, guideline, philosophy, or even mistake. A single composition can be the culmination of countless decisions, emotions, ideas, comparisons, and fragments of data. It can include representations of vision, gesture, shape, or color. The translation of these factors may occur over extended periods as a composer is learning and maturing, and may involve countless revisions in the creation of a single work. The finished product may represent a number of related or unrelated conceptions.

My primary goal while composing Quanah was to remain true to my original conception (a sparse, pristine environment containing an amalgamation of stasis and continuous change within each basic musical parameter) and translate that conception as accurately as possible. In doing so, all of my musical decisions led to the simultaneous presentation of two contrary states of relation: continuous change and stasis; mutability and immutability. I translated my original conception accurately by uncovering the habitual cognitive paradigms
which had been obstacles, then used processes which guarded against them. The shift in my focus from the manipulation of conventional hierarchies to creative combinations of decisions about basic elements was crucial to this goal.

By avoiding conventional patterns of musical syntax, I shifted my focus towards an awareness of elements, their basic qualities, and their incipient relationships. I avoided my desire to generate linear relationships from a single source and combine them in a process of development in order to maintain unity. I resisted the desire to attempt to predict and provoke intellectual and emotional reactions from listeners. Instead, I allowed my original musical "vision" to guide my compositional process.

## BIBLIOGRAPHY

Cone, Edward T. "On Two Modes of Esthetic Perception," Musical Form and Musical Performance (New York: W. W. Norton and Company, Inc., 1968)

Hagan, William T. Quanah Parker, Comanche Chief (Norman: University of Oklahoma Press, 1993)

Nye, William S. Carbine and Lance: The Story of Old Fort Sill (Norman: University of Oklahoma Press, 1968)

Schoenberg, Arnold Coherence, Counterpoint, Instrumentation, Instruction in Form trans. Charlotte M. Cross and Severine Neff (Lincoln: University of Nebraska Press, 1994)

Simms, Bryan R. Music of the Twentieth Century (New York: Schirmer Books, 1986)

## APPENDIX

The Musical Score for the Ballet: Quanah










[10]


PC 2

PE 3


Pn












## 21




(2)



## [20]



国


(2)










Pe 3





目


[13


(15)





19





Ma


[3]

[24]




2



29



## Vision 3






















21




$135$




138







$145$


6




Pe 3









4





(19)





3





27



Pc 2 为
PC 3
$s$


23





[^0]:    15. John Cage, in a lecture at Black Mountain College, described silence as the "opposite and... necessary partner of sound." Bryan R. Simms, Music of the Twentieth Century: Style and Structure (New York: Schirmer Books, 1986), 320.
    16. Arnold Schoenberg, Coherence, Counterpoint, Instrumentation, Instruction in Form trans. Charlotte M. Cross and Severine Neff (Lincoln: University of Nebraska Press, 1994), 11.
    17. Ibid., 15.
[^1]:    22. See Tables 5 through 9.
[^2]:    33. Simms, Music of the Twentieth Century: Style and Structure, 112-113.
