ANALYSIS OF THE DUTAR PLAYING TECHNIQUE
OF
ABDUREHIM HEYT

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My journey in ethnomusicology began in 1985 when I first heard about this new field – at least new to me – from Dr. Vida Chenoweth, at that time Professor of Ethnomusicology at Wheaton College. Without ever having had the privilege of meeting her, Dr. Chenoweth was the catalyst who initially motivated me to pursue ethnomusicology as a lifelong avocation, no matter what job I have had.

I will be eternally grateful to Dr. Tom Avery, former Director of Ethnomusicology for SIL, who mentored me as my understanding of ethnomusicology – and its real-life applications – continued to develop. His passing in 2008 was a great loss to the ethnomusicology community.

I greatly appreciate all of the help and encouragement received from Dr. Rachel Harris, Senior Lecturer in Ethnomusicology at the School of Oriental and African Studies (SOAS), University of London. I look forward to someday studying under her.

I am indebted to Jan Newbold, Assistant Professor of French at Anderson University, not only for her help in translation, but especially for her and her husband Dr. Web Newbold’s faithful friendship that spans more than twenty years.

How can I adequately express my thanks to my wife, for her patience in listening to endless repetitions of audio clips or losing her husband for days (weeks?) at a time to the computer, and for her constant unwavering support and love? Thank you, Wendy!

Finally, this paper would have been impossible without my Uyghur friends and teachers from Kashgar, for generously sharing their life and their music with me. I know that I will be forever the richer.
ABSTRACT

Uyghur dutar player Abdurehim Heyt is hailed by many Uyghurs as the Dutar King, referring to his mastery of the instrument. This thesis examines several of Heyt’s songs and compares them with songs from three other Uyghur dutar players in an attempt to isolate and define the unique characteristic of Heyt’s dutar playing technique that sets him apart from other Uyghur dutar players.

This study presents a brief examination of the concept of music ornamentation as it has developed in the West. The Uyghur concept of music ornamentation – purakh – is then explained and compared with the Western concept of ornamentation. A case is made for the similarity between the early concept of ornamentation in the West during the Renaissance and the current Uyghur concept of ornamentation.

The majority of this study is divided into two sections – transcription and analysis. A set of music analysis tools developed by Vida Chenoweth and Tom Avery provides a methodology foundation for both sections. Several computer programs are used to assist in the transcription of the instrumental portion excerpted from fourteen songs – eight from Heyt and two each from three other Uyghur musicians. All of the songs analyzed belong to the genre of Uyghur folksongs. Kenneth Pike’s etic-emic concept is applied to the analysis phase with the analysis tools to identify ornamentation techniques and separate them from the basic melody.

The results of the study show that, in all of the areas analyzed save one, the dutar playing techniques used by all musicians were very similar. The one area where there was a striking difference between the dutar playing technique of Heyt and the other three musicians was in the extent to which Heyt played the drone string.
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CHAPTER ONE: INTRODUCTION

Abdurehim Heyt, popularly known as the Dutar King among many Uyghur people, is arguably the most skillful living Uyghur dutarist. Among a people where the dutar is one of the most popular musical instruments, that is no small feat. Besides being commonly found in many Uyghur homes (During & Baily; Harris 2002; Litip & Tursun 2006; Wan 1986), the dutar is frequently used to accompany singing and dancing (During & Baily; Wan 1986). Traditionally it has been one of the few instruments that Uyghur women play (During & Baily; Harris 2002b). These factors give the dutar a very high position in Uyghur music culture.

Because the dutar is popular as an accompaniment for singing and dancing, skilled dutar players with a wide repertoire of traditional songs are much sought after. They are the essential catalyst for creating atmosphere and for dancing, and many probably spend more of their time playing at informal gatherings or parties, weddings and other life-cycle celebrations than they do in their employed work. (Harris 2008, 51)

From 2004-2008 I lived among the Uyghurs, studying their language and music. Because of this experience I developed a deep appreciation for Uyghur music and dutar music in particular. It is my goal, through this study, to gain a deeper understanding of the skills necessary to play the dutar well. I plan to accomplish this through an in-depth analysis of several Uyghur folk songs played by Heyt and three other dutar players.

Need for Study

Several articles have been written about the Central Asian dutar (Baily 1976, Harris 2002, Oxford Music Online), and other articles deal with other Central Asian dutarists (Matyakubov 1993, Zarembo 2005). Three sources deal specifically with Uyghur dutarists (Forney 2006, Hoh 2004, Tsekou 2004), and even though they have valuable information, their focus is other than an analysis of Uyghur music. The topic of Forney’s magazine article (2006) is Abdurehim Heyt, but it highlights Heyt’s trials and tribulations with the Chinese government censors rather than focusing on his musical practice.
Other than one study (Harris 2008) that examines the musical structure of several pieces of music from the Uyghur *Muqam* (Uyghur classical music, addressed more below), I am not aware of any study that examines Uyghur music structure or musical instrument technique. Uyghur music as a whole still remains to be studied thoroughly, and the instrumental technique of Uyghur musicians appears to be a particularly fertile field awaiting research.

Due to the fact that the dutar in one form or another can be found in virtually every Central Asian country, a study which examines the playing technique of a dutar master should be of interest not only to ethnomusicologists who focus on music of the Uyghurs but also to musicians and music lovers who have an interest in the music of Central Asia.

**Purpose of Study**

The purpose of this study is to determine the distinctive characteristics of Abdurehim Heyt’s dutar playing technique, and how it compares with the technique of other dutar players. It is also the author’s intention that this study will make available Uyghur dutar playing techniques in such a format so that other foreign musicians can have a better understanding of the mechanics of playing the dutar, thus providing a richer musical experience. Moreover, this study will add to the existing – and to date rather limited – body of knowledge concerning Uyghur music in general and dutar music in particular.

**Research Questions**

This study will answer the following research question: What are the distinctive characteristics of Abdurehim Heyt’s dutar playing techniques that cause his playing to be so highly regarded among the Uyghurs? Sub-questions include the following descriptive questions: 1) What are the strumming patterns that Heyt and the other players use? 2) What are the particular ornamentation techniques that Heyt and the other players use? 3) what are the intervals most commonly used by Heyt and the other players in the melody of their songs? 4) What are the intervals that Heyt and the other players never use in the melody? Inferential questions are: 1) How does the frequency of use of Heyt’s and the other dutar players’ most
commonly used intervals relate to their ornamentation technique? 2) How do Heyt’s and the other dutar players’ strumming patterns relate to their ornamentation technique? My goal in answering these questions is to determine the difference between Heyt’s dutar playing technique and the other players’ dutar playing technique and thus be able to identify the distinctive characteristics of Heyt’s dutar playing technique. I will answer these questions through the analysis of several different pieces of Uyghur music.

Definition of Terms

Central Asia

Throughout the course of history the geographic area known as Central Asia has been defined in different ways. The term described the vast area of Transoxiana stretching from Siberia to the Caspian Sea, and associated with the names of the Emperor Genghis Khan (12th-13th centuries), Emperor Timur (sometimes known in the West as Tamerlaine: 15th century) and the 16th-century founder of the Mogul Empire, Zahiriddin Mohammad Babur. Each of these men was closely tied to historically famous cities like Herat, Samarkand, Bukhara and Khiva. Babur, for instance, was born in Andijan, in the Ferghana Valley, and ruled an empire spanning today’s Afghanistan, Northwest China, Pakistan, Northern India and parts of Iran. Today, the area known as Central Asia covers a much smaller area. The political boundaries of "Soviet Central Asia" consists of the countries of Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, all of which were former Soviet republics. (Sultanova 2005, 131-133) The geographic area that includes music cultures with shared characteristics go considerably beyond the borders of these five countries, resembling the area controlled by the older empires. Besides the five
former Soviet republics, other areas that share many aspects of their music culture include Western China; northern parts of India, Pakistan, Afghanistan, Iran, and Iraq; parts of Azerbaijan and Turkey. (see fig. 1)

Uyghur

The Uyghurs (pronounced “Weegurs”) are a Turkic-speaking Muslim people group whose homeland is in the western Chinese province of Xinjiang (see fig. 2). The population of Uyghurs in Xinjiang is between 8–15 million, depending on the source (Uyghur American Association). Sizeable populations of Uyghurs also live in the neighboring Central Asian states of Kyrgyzstan, Kazakhstan and Uzbekistan. The vast majority of Uyghurs are Muslim and adhere to the Sunni branch of Islam, as well as their popular religious practice being strongly influenced by Sufi traditions. Their language, Uyghur, belongs to the Turkic language family – as do the other Central Asian languages with the exception of Tajik – and is very closely related to Uzbek.

The Uyghurs are culturally, linguistically, and historically part of a Turkic civilization distinct from the civilization that developed in China. Therefore, even though Xinjiang is located within China’s borders, Uyghur music is not related to traditional Chinese music but rather to the music of other Turkic Central Asian people groups, and it has much in common with the music of the Middle East in general. The reason for this is due to the historic flow of music, moving from west to east. As Harris points out, “While Chinese histories record the influence of the Western Region on central China, Uyghur music has historically absorbed much influence from the regions of Central Asia to the west, arriving along the
famed silk road” (Harris 2008, 16). Shir Mämät, a Uyghur musician who provided assistance to Light in his research on Uyghur muqam, gave this explanation for the origin of the modern chromatic scale:

In the sixth century a Uyghur musician named Suzup had invented the chromatic scale of seven whole-tones and five half-tones and taken it to China. Abu Nasr al-Farabi (870–950), the Central Asian Turk who became one of the greatest Islamic philosophers and wrote an extensive study on music, took this same musical system to the Arabs, from whom it spread to Europe, becoming the basis for modern European music theory. (Light 2008, 137)

Chinese historical accounts also provide evidence of the influence of Uyghur music on Chinese music culture:

Ancient chronicles contain many references to the music of the far west of China, including a reference in the 2nd century BCE to the ambassador Zhang Qian bringing a melody from the north-west of the empire back to the imperial capital. Two musical repertories in Chinese court music that were very fashionable at this period, the guchui (“drumming and blowing”) and hengchui (“transverse blowing”) were much influenced by the traditions of the west of the country…A similar process occurred with musical forms, the best example being the daqu (“large piece” or suite), a Chinese musical genre that reached its peak under the Tang dynasty; strongly influenced by the ancient Turkestani suites now known as muqam, it spread as far east as Japan in the guise of gagaku.” (Grove Music Online)

Historical records from the Han (206 B.C.-220 A.D.), Sui (581-618 A.D.), Tang (618-907 A.D.), Yuan (1271-1368 A.D.), Ming (1368-1644 A.D.), and Qing (1644-1911 A.D.) dynasties all mention Turkestani or Muslim ensembles among the “barbarian” musicians performing at the imperial court (Grove Music Online). Moreover, several of the musical instruments that are considered Chinese today originated in Central Asia, including the suona, pipa and the huqin bowed fiddles (Grove Music Online) which includes the popular erhu. Picken notes that “the distribution of bowed handle-lutes throughout the length and breadth of China is indeed a striking example of the acceptance of a foreign musical instrument by one people from another, regarded by the receivers as lower in the cultural scale” (Picken 1965, 85).

Uyghur culture is historically an oasis culture. With the exception of the Yili river valley in northwest Xinjiang, most Uyghur population centers are located at oases scattered throughout the Tarim basin which is the site one of the world’s largest deserts – the Taklamakan. Each oasis developed its own unique characteristics, including unique music characteristics (Mackerras 1985a, 42). Some of the most important oases include Kashgar, Hotan, Aksu, Yarkand and Kucha (Czekanowska 1982, 95).

As previously mentioned, besides being an oasis culture, Uyghur music culture had strong ties to other Central Asian music cultures, particularly Uzbek. The Uyghur muqam has much in common with
the Uzbek Shashmaqam. Uyghur and Uzbek musicians use the same type of instruments and have the same concept of muqam or maqam, which is noticeably different than the understanding of this concept further west. Once again, the development of this concept can be traced to the west-to-east flow of ideas and information. Among Arab music cultures maqam is defined as “the term used for the melodic modes of Arab music, covering both the ranking of pitches and the melodic patterns of a given mode.” (Oxford Companion to Music) However, as Harris points out, this definition does not hold true with all cultures having maqam, “If we move eastwards across Asia we find the term recurring, but the fundamental concept and practice of maqam as mode begins to shift, to be understood not only as modal system but also as designating a repertoire of more-or-less fixed pieces” (Harris 2008, 95). Czekanowska agrees, pointing out further, “The term muqam as used by the Uygurs refers more to a sequence of pieces than to a mode or modal category. This sequence is comparable to a suite, although the Uygurs do not use that word to describe it” (Czekanowska, 2001).

Harris outlines the basic structure of the Uyghur muqam, pointing out that there is some variation between the suites:

- **Chong näghmä** (great music) – begins with the muqäddimä (introduction), which is sung solo in free metre. A suite of named pieces in varying set rhythms follows, sung by a group of voices. Many of the sung pieces are followed by an instrumental variation, märghul. This is musically the most complex, heaviest section of the muqam.
- **Dastan** (narrative songs) – each muqam contains three to five dastan in different rhythms. Again each dastan is followed by an instrumental märghul. The lyrics are drawn from sections of folk narrative songs and relate the stories of famous lovers. These are the most accessible and widespread sections of the Twelve Muqam.
- **Müşhrîp** (gathering) – several faster sung pieces in 2/4 and 7/8 rhythms, consisting of folk lyrics on themes of love. This section of the muqam is for dancing. Usually the lyrics of the first müşhrîp are attributed to a famous poet. (Harris 2008, 17-18)

While the dutar is rarely used with muqam, it is the most commonly used instrument with folk songs, another genre of Uyghur music. Therefore, I have chosen several Uyghur folk songs as the music for this study. Uyghur folk songs are classified according to their region of origin, and true to the oasis character, folk songs from each region have their own distinctive sound. The subject for lyrics include tragic love, religious or local historical themes, and others have a comical theme. (Harris 2002, 547) However, since instrumental portions from these folk songs are examined in this study in order to focus
on dutar playing technique, the lyrics will not be included. There are several accepted spellings of the word “Uyghur” (Uyigr, Uighur, Uigur). For purposes of clarity and simplicity, the spelling “Uyghur” will be used throughout this paper, except in quotations that use a different spelling.

Uyghur Pronunciation Guide

The written form of Uyghur uses a version of Arabic script. I have used in this paper a modified version of the older Romanized Uyghur script (using English letters) with diacritic marks to facilitate ease of pronunciation and understanding. Below is a guide to help the reader in pronouncing the Uyghur words used throughout this paper.

<table>
<thead>
<tr>
<th>Letter</th>
<th>Pronunciation</th>
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<tbody>
<tr>
<td>kh</td>
<td>similar to the letter “k,” but produced in the back of the throat, sounding guttural</td>
</tr>
<tr>
<td>á</td>
<td>the “a” sound in “cat”</td>
</tr>
<tr>
<td>a</td>
<td>the “a” sound in “far”</td>
</tr>
<tr>
<td>ú</td>
<td>similar to the “o” as it sounds in the word “move” but with the lips rounded even tighter and the tongue forward in the mouth, as in the “u” in the German word “über”</td>
</tr>
<tr>
<td>u</td>
<td>the “oo” sound in “too”</td>
</tr>
<tr>
<td>r</td>
<td>similar to the English “r” with an alveolar flap (rolled r)</td>
</tr>
</tbody>
</table>

Other letters used in Uyghur words in this paper have approximately the same pronunciation as their English equivalents.

Dutar

The word “dutar” is from the Persian meaning “two string.” (During & Baily n.d.) This musical instrument is a long-necked lute found among most of the people groups of Central Asia in one form or another (During & Baily n.d.). According to Turnbull, the origin of the long-necked lute was in Mesopotamia during the 3rd millennium B.C. (Turnbull 1972, 60). Cave drawings in the Dunhuang grottos in Gansu province, China, dating from 500 A.D. depict a rich variety of musical instruments including pipa, ghijek, ’oud, dutar and rawap (Czekanowska 2001). Besides being related to the Afghan dutar (During & Baily n.d.), the Kurdish dutar (Blum n.d.), the Uzbek dutar (Karomatov & Slobin 1972, 49), including a smaller version in the Ferghana region designed for women (Levin n.d.), and the Turkmen dutar (Slawomira Zeranska-Kominek 1990, 104), the Uyghur dutar is also related to the Kirghiz komuz (Golos 1961, 42), the Tajik dymbak (Slobin & Djumaev n.d.), the Kazakh dombra (Slobin & Sultanova
According to Hornbostel and Sachs’ system of classification, the Uyghur dutar (see fig. 3) is classified as a “necked bowl lute” (Hornbostel & Sachs 1961, 23) with the assigned number of 321.321. This number indicates that the dutar is:

1. a lute (the plane of the strings runs parallel with the sound-table);
2. has a neck (the handle is attached to or carved from the resonator, like a neck); and
3. is a bowl construction (the body is built up in the shape of a bowl). The Uyghur dutar would be classified as 321.321-5, with the additional 5 indicating that it is played with the fingers (Hornbostel & Sachs [1914] 1961, 20-23).

During and Baily describe the dutar as it is found in Uzbekistan, Turkmenistan, Afghanistan, Iran, and Xinjiang: “Common features of the dutar are its long, slightly tapering neck; a [soundbox] made of mulberry wood; the use of frets; and (originally) two strings which used to be of silk or gut” (During & Baily n.d.). Uyghur dutar strings are now made of nylon.

The tuning pegs are horn-shaped friction pegs carved from wood and pressed directly into a hole in the neck rather than using gears (see fig. 4). The Uyghur dutar has “a carvel-built resonator, and an exceptionally long neck and large soundbox” (During & Baily n.d.). The description of the resonator being “carvel-built” refers to the method of using thin strips of wood that are joined directly together rather than overlapped (see fig. 5). Very small pieces of plastic are decoratively inlaid on the back of the resonator box (Wan 1986) and along the neck (see fig. 6). The entire dutar except the front of the sounding box is varnished. The dutar is
tuned in fourth or fifth intervals or unison\(^3\) and the frets are made with nylon string tied onto the neck, placed in a chromatic scale of twelve semitones (Trebinjac 2000, 194). The nylon frets are movable in order to be able to tune the dutar (Encyclopaedia Britannica Online 2009). The average length of the dutar is 125 cm which is sometimes shortened to 110 cm for a dutar for a woman or child (Trebinjac 2000, 194).\(^4\)

The dutar is held in the player’s lap with the left hand holding the neck and the right arm supporting the body (see fig. 7). The common Uyghur technique for playing the dutar consists of the left hand playing the melody running along the handle by sliding or jumping to reach the notes often separated by an interval exceeding an octave (Trebinjac 2000, 194-195), and the right hand strumming the strings without a plectrum. The right hand establishes the rhythm of the song, usually four fingers in a descending or ascending motion or a combination of the two using regular or irregular patterns. More complex strumming techniques use both the fingers and the thumb in various combinations of both descending and ascending strokes. Trebinjac gives the example of a 3-3-2 pattern of daadaada (d=descending, a=ascending) pattern. (Trebinjac 2000, 195). This 3-3-2 pattern, which emphasized each downstroke, was frequently used by Uyghur dutar players to accompany traditional Uyghur dance music. Even though the strumming pattern is 3-3-2, the meter is usually 2/4 or 4/4. Regarding the fingering of the left hand, the first string is stopped with the fingers, with the second string usually acting as a drone, sometimes being stopped with the thumb (During & Baily). Among the modern Uyghur string instruments, only the dutar uses a finger strumming technique (Wan 1986). As with the word “Uyghur,” there are several accepted spellings of the word “dutar” (dotar, dutor). For the same reasons as stated above for the word “Uyghur,” the spelling “dutar” will be used throughout this paper.
Ornamentation

The Merriam-Webster online dictionary defines an ornament as “something that lends grace or beauty,” or, more directly applicable to music, “an embellishing note not belonging to the essential harmony or melody” (Merriam-Webster.com). Oxford Music Online defines ornament as “The decoration of a melodic or, less commonly, harmonic line” (Oxford Music Online). Two broad categories of ornamentation are: “small-scale (‘simple’) ornaments or ‘graces’ added to single notes; and more extensive (‘compound’) or florid decorations applied to entire passages, in which the original melody might be almost entirely disguised” (McVeigh & Da Costa n.d.). As will be seen in Chapter 4, most Uyghur dutar ornamentation falls into the first category of simple ornaments added to single notes. In order to put into perspective the Uyghur concept of ornamentation, it is helpful to briefly review the development of the concept and practice of ornamentation as found in Western cultures.

During the Renaissance, composers “frequently wrote down only what was, to them, of the essence, leaving further elaboration to the performer” (Neumann 1970, 154). Likewise, Pier Francesco Tosi “warns composers against writing down or indicating ornaments. He expresses quite clearly the Italian notion of the performer's right to improvise and, in effect, to complete the last step in the compositional process” (Smiles 1978, 496).

However, the details of how to play this “further elaboration” were not left totally up to the performer. Even at this early date, although ornaments were not written into the music, they were carefully described, “A spate of didactic manuals from [ca. 1580 to ca. 1620] provide not only a multitude of examples of intervallic divisions and ornamented cadences but some 173 diminutions on 126 different popular madrigals, motets and chansons” (Collins 2001, 138). This tendency to give detailed definitions for ornaments and directions for their use can be traced well into the eighteenth century simply by reading the complete title of a work written in 1771 by Tartini:

*Treatise On The Ornaments Of Music, Including the origin of the appoggiatura; Its value and where to put it; All the various kinds of trills; How to use them; The vibrato and the mordant; The use to which they can be put; The modes or natural ornaments; The florid modes which are endless; How to construct a cadenza* (Tartini/Babitz [1771] 1956, 1)
Toward the end of the Baroque period, beginning with Bach, ornamentation began to be written into the score. Like other composers of the time, Bach “conceived his musical ideas in the form of simpler basic melodies, but that he, contrary to customary procedure, worked out the ornamentation on paper instead of leaving it to the inspiration and taste of the individual performer” (Aldrich 1949, 29). In contrast to Bach, Aldrich astutely observes that “the bare simplicity of Handel's melodies and the uniformity of his figures, resulting from his use of pre-existing types, have been criticized as defects. One forgets that he relied on the inventiveness of a performer skilled in improvisation to animate these melodies” (Aldrich 1949, 31).

By the end of the eighteenth century and especially into the beginning of the nineteenth century many composers began to follow Bach’s example and write ornamentation into their music. Mozart and Beethoven “carefully wrote out the embellishments they required” (McVeigh & Da Costa n.d.) Regarding Beethoven’s music, Rosen remarks that in his later music, “the trill has entirely lost its decorative status; it is no longer an ornament” (Rosen 1970, 1198). Indeed, Beethoven intended his music to be played exactly as written, as is evidenced by his anger directed toward a performer who attempted to add improvised ornamentation (Rosen 1970, 1199). Continuing on into the 20th century, this tendency for composers to notate ornamentation into their music developed to such a point that it left “virtually no opportunity for spontaneous embellishment or misinterpretation of signs” (McVeigh & Da Costa n.d.).

In summary, ornamentation was first expressed as improvised embellishments to an existing melody. These embellishments were gradually defined and then their application described, restricting the acceptable manner in which these ornaments were performed. Eventually composers included these ornaments as part of the original score, thus greatly limiting the opportunity for the performer to improvise.

Uyghur music has, up until recently, been an oral tradition rather than a written tradition. Therefore, it has not experienced the development of the concept of ornamentation as described above, since the development above was to a large extent due to the changes in how composers approached the
task of writing music. Other than the major difference of being an oral tradition, the Uyghur concept of music could be generally described as similar to the situation as it was in the West during the Renaissance period, where ornamentation was left up to the discretion of the performer, and there did not yet exist detailed descriptions of various types of ornaments. This concept will be discussed more thoroughly in Chapter 4. As applied to Uyghur music in this paper, the term ornamentation refers to extra notes that are added to individual notes in a melody line by the performer for the purpose of embellishment.

Limitations of Study

Uyghur music is rich, ancient, and complex, with most researchers focusing their attention on Uyghur *muqam*. While Uyghur *muqam* is certainly a worthy subject for study, the interest placed on it has left many other aspects of Uyghur music still waiting to be researched. One of these aspects is dutar playing technique. However, mainly due to my personal interest in Heyt as a dutar player I have further limited my area of research to examining the dutar playing technique of one particular Uyghur dutar player – Abdurehim Heyt. Certainly, since music from three other dutar players are also studied in this paper as a point of comparison with Heyt’s technique, it would be possible to extrapolate conclusions regarding their technique as well. But the central focus of this paper is limited to Abdurehim Heyt’s dutar playing technique.

Another limitation of this study is regarding the data used. Due to the fact that I did not have the opportunity to travel to Xinjiang and make field recordings of Abdurehim Heyt and other Uyghur dutar players, I was limited to using commercially available CDs as the source of my data. As such, the audio files used in this study were produced in a music studio rather than field recordings.

One further limitation is also due to the lack of opportunity to travel to Xinjiang. Since I was not able to confer with any Uyghur musicians regarding my conclusions, these conclusions have not yet been checked by local experts. Therefore, until such time as they are checked by Uyghur musicians, these conclusions should be viewed as tentative.
Assumptions

This study of Heyt’s dutar playing technique is a representative study. I begin this study with the assumption that it is possible to describe the unique characteristics of Abdurehim Heyt’s dutar playing technique through a thorough analysis of eight of his commercially recorded songs that I have chosen for analysis, in comparison with the six songs from the three other Uyghur dutar players. Compared with the total number of songs that Heyt has recorded, these eight songs are certainly a limited selection. However, based on a thorough review of all of his songs that are available to me, I believe these songs accurately represent Heyt’s dutar playing technique and thus offer sufficient data for an accurate analysis.

This leads to another assumption – that the songs I have chosen for the three other dutar players accurately represent the dutar playing technique of other Uyghur dutar players. As mentioned above, there are many other Uyghur dutar players who have produced multiple recordings. Based on my experience of living among the Uyghurs and studying Uyghur music for four years, I believe the six selections from the three other Uyghur dutar players in this study fairly represent the dutar playing technique of the majority of other Uyghur dutar players.
CHAPTER TWO: REVIEW OF LITERATURE

An examination of the literature related to the analysis of Abdurehim Heyt’s dutar playing technique includes research in several different but related areas: 1) transcription and analysis methods; 2) applied to music played on a particular instrument (dutar); 3) by a musician who belongs to a particular music culture (Uyghur). In addition, special notice must be given to the literature devoted to an aspect of Uyghur music that is, at a general level, found in the literature of many music cultures throughout the world – ornamentation. Reviews of existing literature in these four areas relevant to this paper on Heyt’s dutar playing technique are presented below.

Uyghur Music

A cursory review of the literature pertaining to Uyghur music quickly reveals that one genre has received most of the attention of scholars who focus on Uyghur music – *muqam*. Studies include Czekanowska’s (1982) relatively early report on Uyghur *muqam*, giving a brief history of its development and structure, and an account of how it was practiced at that time. This study is more of an introduction to the genre rather than an in-depth examination. In her later study on the same subject Czekanowska (2001) focuses more on the importance of *muqam* to Uyghur identity. She states, “In seeking to preserve their distinct identity and national awareness, Uyghurs, wherever they live, hold fast to the tradition of *muqam* (Czekanowska 2001, 998). Likewise, Mackerras’ (1985) brief study on the performing arts of the Uyghurs also seems to be a review of the genre rather than a thorough study. It is interesting – and not all that surprising, in view of the number of scholars who choose to focus on the *muqam* – that Mackerras gives *muqam* an exalted position in Uyghur music culture, stating, “The Mukams epitomize what is vibrant, fresh and appealing in a culture old enough to be shrouded in a mystique of its own. The longevity of the Mukams has assured them of a permanency in the cultural life of the Uygur people in spite of any outside influences” (Mackerras 1985, 49). Mackerras also includes a brief discussion of the influence that Islam and Chinese communism has had on Uyghur music as a whole. Regarding the apparent antipathy that Islam seems to hold toward most music, Mackerras asks, “How is it that so music-
loving a people as the Uygurs have owed so much to a civilization based on a religion which held a
principled hostility to music? The answer is that the love of music antedated Islam” (Mackerras 1985, 50).

Harris (2008), Light (2008), and Wong (2006a), on the other hand, examine the Uyghur muqam
at a much deeper level and from a socio-political perspective, identifying evidence that points to political
agendas held by both Chinese and Uyghurs in the process of canonization of the muqam. They look at the
selection process among all the Uyghur muqam from various geographic areas throughout Xinjiang to
come up with the Twelve Muqam, which is viewed as the definitive, officially recognized Uyghur muqam
by both Uyghurs and Chinese. The main research question that Harris addresses is to determine when the
Uyghur Twelve Muqam entered into the national musical canon of the Uyghurs. Most Uyghurs place the
date in the sixteenth century with the somewhat historically questionable figure of the Uyghur Princess
Ammanisahan, who, according to popular legend, gathered the muqam from the common people and
organized this collection of music into twelve muqam, or suites. According to Harris’ research, the date of
when the Twelve Muqam became part of the Uyghur national musical canon did not take place until the
early twentieth century, with the impetus being a desire on the part of the Uyghurs for an expression of
their nationalism. For the Uyghurs, this did not mean patriotism for China, but rather love for their ethnic
identity as Uyghurs apart from their identity as Chinese citizens, which was only by virtue of the fact that
their homeland is located inside the political boundary of the People’s Republic of China.

Light’s (2008) research on the Uyghur muqam focuses more on the text rather than the music. He
gives an overview of the historical development of the Uyghur muqam, including a description of how the
social and political exigencies of the time influenced the musicians who originally chose the texts and
paired them with the music. He then examines the material to show how this process has continued up to
the modern time, with Uyghurs who are currently involved in the process of organizing the Uyghur
muqam also having very specific reasons – certainly social and political, and sometimes musicological
and religious – for choosing certain texts over others.

In Wong’s (2006) essay he looks at how contemporary sociopolitical issues are implicated in the
narration of music history and the *muqam* revival project. He investigates how the State-sponsored revival
project brings about a canonized muqam tradition, which is in turn used to symbolize the modern notion of a pan-Uyghur identity and ethnic nationalism. He suggests that, “far from simply being vehicles for State oppression or nationalistic opposition, [the canonization of] traditional music works towards a redefinition of modern Uyghur identities and attain new meanings in the process” (Wong 2006a, 2).

In the Garland Encyclopedia of World Music, Trebinjac (2001) describes a different type of Uyghur muqam – the Dolan muqam, from the Dolan Uyghurs of southern Xinjiang. While it has much in common with the Twelve Muqam, it also has its own distinctive characteristics that separate it from the Twelve Muqam. Trebinjac also examines a popular Uyghur cultural event called mäshräp, a large-scale assembly, almost like a village-wide party, usually held in the winter when the farmers’ work is light. It usually takes place in a village to celebrate a particular event such as a wedding, religious holiday, or even the visit of a relative. According to Trebinjac, music from the Dolan muqam is an important element in a mäshräp.

Turning from Uyghur muqam to other aspects and genres, Harris (2002a) explains the development of Uyghur music in various regions of Xinjiang. She points out that Uyghur music embraces several distinct regional styles. These different styles are a product of the geography and history of the region, whose oasis kingdoms, separated by mountains and deserts, have been subject through the course of history to rule by many different outside forces. The musical traditions of the southern oasis towns of Hotan and Kashgar are more closely allied to classical Central Asian traditions to the west, the music of the northwest city of Ghulja feels the influence of Russian music, and the music of the easternmost oasis towns of Turpan and Qumul have closer links to the music of Northwest China (see fig. 8). Each of the region’s oasis towns have to this day maintained

![Figure 8. Map of key locations of Uyghur music culture](Source: Adapted from Paul Noll)
their own distinctive sound and repertoire, including different muqam, but they are linked by a common language and overarching culture, maintained by constant communication through trade and movement of peoples (Harris 2002a).

Uyghur popular song has not escaped the notice of scholars. Harris (2002b, 2005) and Smith (2003) examine aspects of this genre particularly from the perspective of how Uyghurs use it to voice dissent and nationalism. Both Harris and Smith discuss the development of the cassette tape industry and how it assists Uyghur musicians in their desire to disseminate nationalist sentiment via music.

From the above review of literature on Uyghur music, it is easy to see that Uyghur muqam holds a very elevated position in Uyghur music culture. This is understandable, considering the importance that muqam has come to represent regarding the expression of Uyghur identity. It is also easy to see what is NOT there; other than Harris (2008), I was not able to find one study whose focus was the analysis of Uyghur music.6

Dutar

As previously stated, the dutar is found in virtually all Central Asian countries as well as several other countries beyond this geographic area. Most of the research that has been carried out on the dutar in one form or another has focused on different types of dutar other than the Uyghur dutar. For example, in his article on the dutar of Heart, Baily (1976) points out that Afghanistan has at least three different types of dutar: the two-stringed dutar, the three-stringed dutar, and the fourteen-stringed dutar of Heart, which is the main focus of his study. He describes how the social dynamics of Afghanistan in the 1950s and 1960s influenced the material evolution of the Herati two-string dutar into its current form – the Herati fourteen-string dutar. In their informative article in Oxford Music Online, During and Baily (n.d.) describe the various forms that the dutar takes in various locations throughout Central Asia and Iran. They also describe the construction, tuning and general playing techniques for various types of dutar.

Other article titles in Oxford Music Online that contain information regarding the dutar as it is found in various countries include Afghanistan, Central Asia, Kurdish Music, Turkmenistan, and
Uzbekistan. Matyakubov (1993) presents a case study of the life and art of Turgun Alimatov, a well-known Uzbek dutar and tanbur player. Two articles that deal with instruments related to the dutar but which are located outside Central Asia (the dvotelnik in Macedonia and the balalaika in Russia) are *The Dvotelnik, a Macedonian Folk Instrument* by Hadzimanov (1963) and *The Balalaika: A Reappraisal* by Kiszko (1995). These two articles are an illustration of how related instruments can be found in vastly separate locations. It is interesting to note that the Turkish name for the dvotelnik mentioned above that the Turkish minority in Macedonia use is “ikitelli” which, when translated into English is “two-stringed.” (Hadzimanov 1963, 82) The information that all of these articles provide demonstrate beyond doubt that the Uyghur dutar is closely related to the instrument by the same name found in many other cultures, and to a lesser degree related to other long-necked lutes spread out over a very wide geographic area that stretches beyond Central Asia.

Research that focuses specifically on the Uyghur dutar, on the other hand, is scarce, and most of what is available is more general in description. For example, several of the articles in the section on Uyghur music above which deal mainly with Uyghur muqam also contain a short description of several Uyghur instruments including the dutar. However, because the main focus of the study is on muqam rather than instruments, the information given pertinent to instruments is, by design, limited to a basic description of the instrument. On the other hand, Wan (1986) and Litip and Tursun’s (2006) work focuses particularly on Uyghur musical instruments. Indeed they each give descriptions of many different musical instruments which the Uyghurs use. Litip and Tursun published their book on Uyghur musical instruments in Uyghur, Chinese and English, thus making it available to a wide audience. In the main part of the book the authors describe 46 different musical instruments, some of which were used in ancient times and are no longer used today. Several excellent color photographs of each instrument are included. The authors divide the instruments into wind instruments, plucked or strummed string instruments, bowed string instruments, and percussion instruments. It is not clear whether this organological division is how the Uyghurs conceive of the grouping of their instruments, or if it is a foreign method of classification imposed onto Uyghur music culture, or if it is a foreign method that the Uyghurs have embraced.
However, even though the purpose of this book is the description of Uyghur instruments, their descriptions hardly go further than describing the instrument itself and rarely includes a description of its construction of playing techniques. Regarding the dutar in particular, the authors devote but one cursory paragraph to its description, including two sentences regarding its construction and one sentence that describes playing technique. It would seem from the actual appearance of the book that the purpose of the authors was to appeal to as large a market as possible. Therefore, the space that otherwise could have been used for a more in-depth description of each instrument was instead used for translation into three languages.

Similar to Litip and Tursun, Wan’s purpose is to describe many of the different musical instruments – seventeen, in fact – which the Uyghurs use, including the dutar. He includes a physical description and tuning for each instrument, as well as a general description of how they are played. While Wan’s description includes far more detail than Litip and Tursun’s, particularly in the area of playing technique, it is still a survey of the most common Uyghur dutar playing techniques rather than an in-depth study of the instrument.

The most useful source of information on the dutar was Trebinjac’s *Le pouvoir en chantant* (2000). In the second half of her book, entitled *De la musique ouigoure (Uyghur Music)*, Trebinjac includes a section describing Uyghur musical instruments. Even though I was not able to read the majority of the book due to the fact that I cannot read French, I was able to have the portion of the instrument description relevant to the dutar translated into English. This information was more complete than any other source found and thus very helpful, as is evident from the references to this source in Chapter 1.

**Ornamentation**

Studies on ornamentation abound, examining ornamentation in both Western and non-Western music cultures. Most research that studies ornamentation in Western music tends to focus either on an aspect of ornamentation from a particular time period or on ornamentation techniques using a certain
instrument. Grubbs (1970) discusses fifteenth century ornamentation practices. Falvy (1993-4) examines ornamentation in troubadour music from the Middle Ages. Collins (2001) uses multiple source texts to demonstrate that many performers of the Baroque period employed far too much ornamentation. He shows that, “by the early 1580's the practice of adding ornamental passaggi, which had hitherto flourished virtually unchecked, must have reached abusive proportions” (Collins 2001, 143). Brown (1973-4) discusses musical ornamentation practices in Italy during the early sixteenth century. Dodge (1908) examines the meaning of various ornamentation signs in lute tablature of the sixteenth and seventeenth centuries. Dart (1961) interprets ornament signs in Jacobean music for lute and viol from the seventeenth and eighteenth centuries. Emery (1948) and Aldrich (1949) discuss elements of Bach’s ornamentation. Neumann (1966) discusses Baroque ornamentation and (1970) the relationship between ornament and structure. Rosen (1970) joins the discussion with his own essay on ornament and structure in Beethoven’s music. Timmers et al (2002) collaborate on a study to determine the correct duration of grace notes in the theme from Beethoven’s Paisiello Variations. Spitzer (1988) uses the example of a particular concert in 1801 of a Handel aria where an oboist accompanied a vocal soloist, illustrating the proper use of improvised ornamentation as interpreted in the early nineteenth century. (The playing of the oboist was an example of what not to do!). Spitzer and Zaslaw (1986) give several examples through original sources demonstrating the idea that during the eighteenth century improvised ornamentation was strongly frowned upon. Smiles (1978) discusses the directions for improvised ornamentation that are given in Italian method books from the late eighteenth century. Timmers and Ashley (2007) discuss the possibility that various ornaments act as cues to provoke certain emotional responses. Maitland (1912) was concerned about the proper interpretation and performance of ornaments as notated in scores. Babitz (1956) gives us the English interpretation of Tartini’s 1771 Treatise on Ornamentation.

One study that is of particular interest for this paper is Buelow’s (1979) review of Neumann’s 600+ page book on ornamentation in Baroque and post-Baroque music, published in 1977. Buelow echoes popular sentiment when he describes “the highly sophisticated art of ornamentation” (Buelow 1979, 638). By the twentieth century, ornamentation had become so prescribed that “improvised
ornamentation, in the sense of melodic decoration, is no longer a feature of Western art music” (McVeigh & Da Costa n.d.). Neumann, however, takes issue with this state of affairs. Buelow states that Neumann’s book challenges “most of the popular, sacrosanct 'laws' for ornamentation. These, Neumann shows, are the excessively rigid and simplified creations of previous musicologists who sought a rational order and homogeneity of concepts where diversity and even inconsistency were the true characteristics of the developing art of ornamentation.” (Buelow 1979, 638) He explains further:

The artistic impetus that led to the ornamentation of music must have developed practices that involved subtle nuances, variety and delicacy. Often these practices were difficult if not impossible to freeze accurately in those numerous tables of ornaments which have repeatedly been used to prove one consistent practice of playing ornaments. (Buelow 1979, 638)

A clear understanding of this process of the development and subsequent “freezing” of ornamentation in the West, as is seen through the content of the studies above, is crucial for understanding the Uyghur concept of ornamentation. As stated in Chapter One, the Uyghur concept of ornamentation is similar to what ornamentation in the West was like hundreds of years ago during the Renaissance, not as it is understood today. Therefore, these studies of ornamentation in Western music are useful to remind us of this process, that ornamentation as it exists today is not how it has always been viewed and practiced, and is very different from the Uyghur concept of ornamentation.

Although the majority of research on ornamentation has focused on Western music, a number of studies have also been carried out on ornamentation in non-Western music. Unlike the studies on ornamentation in Western music, rather than focusing on ornamentation as found in different musical eras, these studies include ornamentation as one aspect of a study on a genre or instrument from a particular music culture. Zamfir (1960) describes the technical elements of the Romanian shepherd's pipe, fluier, including ornaments commonly played. Through an examination of ornamentation technique Hood (1983) demonstrates the similarity between the way a singer sings a Hawaiian song and the way a player plays the song with the Hawaiian steel guitar. Paksa (1987) gives data that shows the frequency in which Hungarian folksongs use an ornament with the first note of a line in a song, and (1992) demonstrates connection of style and dialect in the ornamentation of Hungarian folksongs. Keefe, Burns and Nguyen

Another useful study was Nettl and Riddle’s (1973) analysis of sixteen performances by Lebanese musician Jihad Racy of the taqsim Nahawand. Their purpose was to analyze his improvisation technique. One of their conclusions was that there was a significant amount of ornamentation in the improvisation. “[T]he improvisatory technique in general can be characterized less as melodic improvisation than as elaborate ornamentation upon or variation of very brief motivic-rhythmic units.” (Nettl & Riddle 1973, 21). They define ornamentation as “the embellishment and the resulting emphasis of a tone” (Nettl & Riddle 1973, 27). Uyghur musicians would agree with this definition.

Transcription and Analysis

Turning to research that focuses on transcription and analysis, Gaare’s (1997) article on notation is a reflection of the popular idea – at least among ethnomusicologists – that there is no “one size fits all” approach. He suggests that Western staff notation might not be the most effective method for notating non-western music, particularly since this method developed in the West during the Middle Ages as Western music developed. He discusses tablature as an alternative. In his chapter in Meyers (1992) Blum abundantly illustrates the need for adapting methods to fit the unique characteristics of the music culture being studied. He states, “As analysts, we must continually reshape our tools and our questions as we attempt to interpret some of the actions of musicians and some of the meanings of these actions” (Blum 1992, 213). In his chapter in Meyers (1992) dealing with transcription, Ellingson outlines the history of
various methods of transcriptions that have been developed and the issues that spurred the creation of those various methods. Likewise, in his chapter on notation in the same collection (Meyers 1992), Ellingson gives a brief review of many different types of notation that have been developed in various cultures to represent music. Tenzer (2006) has compiled a collection of analytical studies of samples of music cultures from around the world. A chapter written by Peter Manuel in this collection examines flamenco music, in part comparing the song form to the guitar interludes. Even though this chapter is part of a book that focuses on analysis, Manuel’s observations on the playing technique of a flamenco guitarist is relevant to, and included in, the analysis of the Uyghur concept of ornamentation in Chapter Four. In a separate article Manuel (1989) describes modal harmony as found in Andalusian, Eastern European and Turkish music cultures.

Rahn (1983) approaches the task of analysis using the paradigm of interpretation. He states, “Interpretation is an activity that unites scholars of the sciences and the humanities…Just as one can interpret microbes or musty books, so too can one interpret music” (Rahn 1983, 23). Using the term “observables” when referring to music, Rahn makes a case for objectivity when he says that, “there is no necessary beauty in the observables, only a potential for beauty in the interpretation of them” (Rahn 1983, 36). According to Rahn, one of the biggest obstacles in the analysis of music – at least among ethnomusicologists – is the fear of their theory being debunked by other ethnomusicologists. He puts forth his theoretical method, based on objectivity, as a better way to view the task of analysis, or interpretation as he would call it.

The problems of getting started and dealing with scepticism are lessened in a number of ways. First, assumptions - as embodied, for example, in one's undefined concepts - are reduced to a minimum. Second, only the most modest of goals - for instance, interpreting sounds and scores - are entertained at a given time, rather than juggling both music and its epiphenomena. And third, with one's assumptions and ambitions reduced, more emphasis is placed not on the first steps of a study, i.e., getting started but on the last steps, i.e., evaluating what has been accomplished (Rahn 1983, 224).

Opposite Rahn’s objective approach to analysis are other scholars who take a phenomenological approach. Ferrera (1984) points out that those who attempt to approach music analysis from a purely objective standpoint do not take into consideration the unavoidable fact that the analyst’s own
assumptions will affect the outcome. He states that “the use of traditional methods of analysis in applied theory does not objectify the conclusions drawn by the analyst. Value assumptions and personal decisions are embedded (and obscured) in the constitution and use of the methods employed” (Ferrera 1984, 356). Rather than assuming a completely objective perspective is even possible, a phenomenological approach assumes that music is influenced by culture – the culture of the composer or performer as well as the culture of the analyst. “While it may not be possible to fully decipher what a composer's intention was or is, it is necessary to understand a work within the perspective of the world in which it was written” (Ferrera 1984, 357). Likewise, Barwick (1990) recognizes the limitations of the analyst when she proposes that “analysis is a process of understanding rather than a methodology for producing ‘truth’” (Barwick 1990, 60).

Avery (2004) and Chenoweth (1997, 2006) present a unique approach for music analysis based on Pike’s (1954) theory of the identification of etic and emic phrases. This concept is taken from the suffixes of the linguistic terms of phonetic and phonemic. Merriam-Webster’s online dictionary defines emic as “…of, relating to, or involving analysis of cultural phenomena from the perspective of one who participates in the culture being studied” (Merriam-Webster.com). The same source defines etic as “…of, relating to, or involving analysis of cultural phenomena from the perspective of one who does not participate in the culture being studied” (Merriam-Webster.com). In other words, the word emic refers to how an insider views or explains something, whereas the word etic refers to how an outsider uses words familiar to himself in order to explain the same thing. Both Chenoweth and Avery apply this concept to music, suggesting that the goal of music analysis should be to discover the emic form of the music being studied. Both Tenzer (2006) and Sanyal & Widdess (2004) observe that it is not only possible but at times preferable that the analyst “emphasize learning and analyzing the music of others using a mixture of local and the researcher’s own terminology and techniques” (Tenzer 2006, 11).

As is evident from the review of literature above, very little research has been done on any aspect of Uyghur music other than Uyghur muqam. Much of the related literature is useful in providing general information regarding the specific topics discussed above, but as Blum observed in his quotation above,
analysts need to consider the needs of the particular music culture being examined and fit their methods to those needs. That is what has been done in this study. Even though several sources from the review above proved helpful in various ways, ultimately what was needed was the tailoring of an analysis method to suit the specific needs of Uyghur dutar music. The next chapters will demonstrate how successful this undertaking was.
CHAPTER THREE: METHODOLOGY AND TRANSCRIPTION

Background

From 1993-2008 I lived in China with my wife and two children. For the majority of this time I taught English to Han Chinese college students. From 2004-2008 we lived in the city of Kashgar, in the western province of Xinjiang. As previously stated, Xinjiang is the homeland of the Uyghur people. During these four years I studied the Uyghur language and music, concentrating on learning how to play the dutar. For the first three years I was privileged to have as my tutor a very accomplished dutar player who was a college student at the school where I was studying Uyghur. When he graduated in 2007 and moved back to his hometown to teach music, I began looking for a new dutar teacher. Through a friend, I was very fortunate to have Abdurehim Heyt’s older sister – a retired music professor at the Art College in Kashgar – as my second dutar tutor.

Throughout my time living in Kashgar, I heard about a famous dutar player referred to as the Dutar King. I eventually learned that his name was Abdurehim Heyt, originally from Kashgar but now living in Urumqi, the provincial capital in the northern part of Xinjiang (see Illus. 7 in Ch. 2). He was considered by most Uyghurs to be the best Uyghur dutar player. My first dutar tutor had learned many of Heyt’s songs and taught one of them to me, albeit a rather simplified version. Because of my interest in Uyghur music and in particular the dutar, I purchased several of Heyt’s video CDs.

After we returned to the U.S. in 2008 and I began to study for a Master of Arts in Ethnomusicology through Liberty University’s online program, I knew I would not be able to return to China during the course of the degree to collect field data for this thesis. However, since I already owned several commercially produced video CDs of Heyt performing his songs, I was able to select several tracks from these video CDs to use as the source of my data for this thesis.

Merely analyzing Heyt’s songs is not sufficient to determine the distinctive characteristics of his dutar playing techniques. I also needed data from other musicians with which to compare his playing techniques. Otherwise, while the data would certainly be able to determine the characteristics of his dutar
playing technique, it would not be possible to determine what is unique about his technique without something with which it can be compared. Therefore, since I owned video CDs of several other Uyghur dutar players, I have also selected two songs each from three other Uyghur dutar players and have applied the same transcription and analysis methods to their songs. These other three dutar players – Amrulla Jamal, Ärkin Mäpiz, and Sänubar Tursun (a female dutar player) – have all published several video CDs of themselves playing the dutar. They are popular musicians among most Uyghurs.

Data Collection

Several criteria were used for selecting songs from the video CDs for transcription and analysis. The first criterion was more practical than analytical – the audio track must be undamaged. It is not uncommon in China to discover small flaws in the audio tracks as you listen to a CD. While this might merely be a minor annoyance when listening to music for recreational purposes, it is unacceptable for the purposes of transcription and analysis because of the missing notes. Another selection criterion was that the song, generally speaking, belonged to the genre of Uyghur folk songs rather than Uyghur classical music of Muqam. After these criteria were applied to the audio tracks, from the songs that met the criteria I selected eight of Abdurehim Heyt’s songs and two each of Jamal, Mäpiz and Tursun’s songs. The eight song tracks selected from Heyt were from the following two video CDs:

From Ana Til
- Track #4 – Nazugum
- Track #5 – Achil
- Track #7 - Äynäk

From Umid
- Track #2 – Rastchilikhin
- Track #4 – Anargühl
- Track #5 – Dostung Ämäs
- Track #6 – Khizlar
- Track #8 – Vätän Khädri

The song tracks selected from the other three dutar players were:

From Amrulla Jamal’s video CD entitled Güzül Däymän
- Track #8 – Oynang Yarlıirim
- Track #10 – Ashtajan
From Ärkin Mäpiz’ video CD entitled Ayrildim
  • Track #3 – Livän Yala
  • Track #12 – Otlukh Nidalar

From Sänubar Tursun’s video CD entitled Här Kimning Güli Bolsun
  • Track #1 – Dostirim Käyärlärdä

From Sänubar Tursun’s video CD entitled Orundighan
  • Track #12 – Tüt Khulakh

However, the selection process was not yet complete. Heyt, Jamal, Mäpiz and Tursun all follow the pattern of most Uyghur dutar players by beginning their songs with an instrumental solo and then accompanying themselves as they sing the verses. Between the verses they repeat the instrumental solo, usually with slight variations on the ornamentation. The scope of this thesis focuses on Heyt’s dutar playing technique and does not include his singing technique or the lyrics of his songs. Moreover, it is extremely difficult to determine clearly while listening to the tracks the exact notes that Heyt and the other dutar players are playing with the dutar while they are singing the verses. Therefore, using Audacity I excerpted a solo portion from each of the selected song tracks and then used these instrumental solo excerpts as my data source for analysis. Audacity has the capability to export in AIFF format, which is the file format that Melodyne Editor requires and one of the formats accepted by Translate!, thus sparing me the task of having to save the excerpt in several different formats.

Once the songs were selected and the excerpts extracted, the raw material was then available to begin the task of transcribing and analyzing each song. Since these songs fall under the classification of oral music, in that they have not been notated before (as far as I am aware), the first task was to translate the audio excerpts into a written form – a transcription – which could then be analyzed. Fortunately, it was not necessary to create a totally new methodology for this task. Avery’s and Chenoweth’s transcription and analysis tools (discussed below), which are based on the application of the emic-etic concept, provided the foundation for my methodology.
Help From Linguistics

In the 1950s Kenneth Pike developed a theory of language analysis he termed Tagmemics. The goal of Tagmemics is to assist a linguist in moving from an etic understanding of language to an emic understanding. The terms etic and emic are suffixes of the linguistic terms phonetic and phonemic, referring to the possible sounds in human speech (phonetics) and the basic units that make up a specific language (phonemes). As Franklin explains, “Etics, like sounds, are similar across cultures, while emics, like phonemes, are particular to a language” (Franklin 1976, 382). Thus, a researcher begins with an inventory of all possible sounds and then utilizes tools to discover the basic units in a specific language. Those tools are referred to as tagmemes and represent conceptual bridges that will help the researcher to move from etics to emics (Edwards, n.d.).

As Pike’s theory became more established within the social sciences, the understanding of its application came to be that of an insider/outsider dichotomy. Insiders possessed a subjective emic perspective which, for the insiders, held the true meaning. Outsiders must use objective, etic methods for discovering the insider’s emic perspective. Since the 1970’s, the emic-etic concept has been applied to a host of other fields - education, folklore, management, medicine, philology, psychiatry, psychology, public health, semiotics, and urban studies – “but they are generally used in ways that have little or nothing to do with their original anthropological context” (Lett). Indeed, there seemed to be as many ways to phrase this concept as there were fields to which it was applied – verbal versus nonverbal, specific versus universal, interview versus observation, subjective knowledge versus scientific knowledge, good versus bad, ideal behavior versus actual behavior, description versus theory, private versus public (Headland 1990). However, according to Pike, it should not be thought of in terms of a strict dichotomy of two opposing viewpoints:

…the need to have a generalized background framework available as a source of all human choices led me to note an etic structure (of phonetics, first) from which emic variability could be seen in particular cultures. Thus, for me, etic universal background pattern and emic culturally specific pattern were always intertwined and thus could not be treated separately, or first one, then the other, or as one as outside the mind, the other inside it. I want a holistic view from the beginning (Kaye 1993).
Kubik explains that “...the difference between these two dichotomies emics/etics and insider/outsider - is in the referent. The insider/outsider distinction focuses upon the person of the observer or researcher and his share in the culture to be studied. The emic/etic distinction focuses upon standpoints, regardless of the kind of person involved” (Kubik 1996, 6). Kubik proposes that there are, in fact, three different possible perspectives: 1) the emic perspective within the culture to be researched; 2) the etic perspective of the researcher with the goal of cross-cultural comparison; and 3) the idiocultural perspective adopted by many foreign researchers who believe that the concepts and categories in his own language have universal validity. He states that this third perspective is “the most frequently encountered approach, if not the ‘normal’ one” (Kubik 1996, 6).

Marvin Harris (1990), an anthropologist who early on appropriated the emic-etic concept and applied it to the field of cultural materialism, viewed the emic-etic model as an insider-outsider dichotomy with the idea that objectivity is the goal. Whereas Pike’s goal was to use etics to gain an emic viewpoint, Harris considered etics as an end in themselves.

From Harris’s perspective, the etic approach is useful in making objective determinations of fact, and etic claims to knowledge are necessarily superior to competing emic claims. Pike believes that objective knowledge is an illusion, and that all claims to knowledge are ultimately subjective; Harris believes that objective knowledge is at least potentially obtainable, and that the pursuit of such knowledge is essential for a discipline that aspires to be a science. (Lett n.d.)

A Phenomenological Approach to the Emic-Etic Concept as Applied to Music Analysis

The emic-etic theory is easily applied to music analysis. Most would agree with Chenoweth that, like language, “…the phenomenon of music exists universally, that music occurs pervasively, but this is not to say that each manifestation of the phenomenon is universal for that would imply that music is of like character in all its occurrences…” (Chenoweth 2001, 1). She further points out, “Like language, music is ordered and operates within a closed system. Just as the descriptive linguist can ferret out the
grammar of a speech system in oral tradition, the ethnomusicologist can discover a distinctive grammar in the music system of a people” (Chenoweth 2006, 9).

An outsider who wishes to communicate linguistically with a people must first overcome the language barrier. Exotic sounds, difficult grammatical constructions, unfamiliar vocabulary and strange idioms present barriers to communication which must be conquered. In a similar way an outsider confronted with a music system different from his own faces a music barrier when he tries to communicate musically. Differences in rhythmic structure, melodic movement and harmonic potential can interfere with the message he wishes to convey. (Chenoweth & Bee 1968, 205)

Drawing further on the analogy of language, she explains, “Musical boundaries are wider than those of speech, sometimes encompassing an entire continent with its diverse languages; at other times, it may embrace only a single tribe. In short, music’s meaning is by no means universal” (Chenoweth 1996, 585)

Avery goes so far as to suggest the use of the emic-etic concept “as an over-arching theoretical framework for all aspects of musical analysis at all hierarchical levels, from the largest imaginable scale (whole repertories and even the totality of human musical activity) to the smallest unsegmentable sub-note structures” (Avery 1996, 550).

However, as in other areas where the emic-etic approach has been applied, music analysis can also be misinformed and even misguided by the pursuit of unrealistic objectivity. According to Ferrara, there is “the implicit belief that the knowledge that is acquired as a result of analytical methods is and ought to be objective…The method utilized by scientists (and by musical analysts) is tacitly thought to cleanse the experiment (or analysis) of the confounding variables that a too involved subject might cause” (Ferrara 1984, 355). He further points out that “the use of traditional methods of analysis in applied theory does not objectify the conclusions drawn by the analyst. Value assumptions and personal decisions are embedded (and obscured) in the constitution and use of the methods employed” (Ferrara 1984, 356).

A phenomenological approach to analysis presumes that the mere presence of the researcher introduces factors into the process. Ferrara observes, “At both the composing and interpreting stages, music is imbued with a human presence. That presence is marked by the historical being there of the composer and the equally historical being here of the analyst” (Ferrara 1984, 357). Phenomenology also takes into consideration the background and experiences of the researcher, “…that what one hears is
affected by how one hears” (Ferrara 1984, 356). Thus, for the music analyst employing a phenomenological approach, analysis is more akin to “a process of understanding rather than a methodology for producing ‘truth’” (Barwick 1990, 60). This approach incorporates the experiences of the researcher, rather than having the unrealistic expectation of producing a completely objective analysis as the end result.

**Experience as a Music Analysis Tool**

In line with this phenomenological approach, I include my experience in China as one of the music analysis tools available to me. Indeed, it is impossible to escape the fact that part of the process of analysis includes “…the analyst’s musical skills and experience” (Tenzer 2006, 6). As previously mentioned, from 2004-2008 I had the wonderful opportunity to live in Kashgar, Xinjiang as a language student, to immerse myself in Uyghur culture, particularly Uyghur music. By the end of my time in Kashgar I discovered that, just as Chenoweth described, I came to love both the people and their music (Chenoweth 2006, 12). I was thus highly motivated to learn as much as possible about Uyghur music through interaction with several Uyghur musicians. As a result, I was able to compose dutar music which was, according to several Uyghur musicians, indistinguishable in character from other dutar music composed by Uyghur musicians.8

**Transcription and Analysis Tools**

In addition to my musical experience, three computer programs proved invaluable in the tasks of transcription and analysis: *Transcribe!, Melodyne Editor*, and *Sibelius*. *Transcribe!* is an audio file editing computer program that allows the user to control the speed of the playback without affecting the pitch. This was extremely useful in slowing down the recordings in order to help distinguish all notes and strum patterns. *Transcribe!* also has the capability of playing the video portion of the selected tracks, and since these tracks were excerpted from video CDs, this function, used in combination with the speed reduction utility, allowed me to observe the musicians on the video playing at slower speeds. *Melodyne Editor* is a
computer program which produces a polyphonic graphic display of the pitch of each note in the audio track. The display not only indicates pitch but also dynamics and duration. This program was used to assist in determining the actual notes that Heyt played. *Sibelius* is a music notation program that was used to notate Heyt’s songs on the computer.

In addition to these computer programs I also revised a set of analysis tools developed by Tom Avery called the Analytic Summary Sheet, and to which I added an interval succession analysis tool from Chenoweth (Chenoweth 2006, 41). The revised version, which I renamed the Analytic Inventory Sheet (see Appendix 1), contains a set of guidelines and music analysis tools that enables the researcher to analyze form, tonal succession, interval succession, tonal inventory, tonal center, rhythm, meter, tempo, melodic contour, ornamentation, and dynamics.

Transcription

The Merriam-Webster Dictionary online version defines transcription as “an arrangement of a musical composition for some instrument or voice other than the original” (Merriam-Webster Dictionary n.d.). For most people involved in the field of music, this is the accepted definition. Scholars in the related field of ethnomusicology, however, use a very different definition. “In ethnomusicological transcription, music is written down from a live or recorded performance, or is transferred from sound to a written form by electronic or mechanical means” (Ellingson n.d.). This ethnomusicological definition of the word is an accurate description of the process that took place in this study – music that was performed by Uyghur dutar players in a recording studio in Western China was transferred to a written form. Below is a description of this process.

As previously mentioned, I did not have to “re-invent the wheel” when it came to transcription and analysis. Many researchers have come before me, and I have the privilege of following in their footsteps, benefiting from their work. I mention some of these pioneers below. Even so, the process has been complex, with steps needing to be repeated multiple times. I can very much relate to Chenoweth when she suggests that learning to transcribe non-western music “…is somewhat like learning a foreign
language for the first time in that the frustrations cannot be anticipated since it is a totally new experience. As one continues transcribing, he gains the ability to approach a second music system with a more relaxed attitude” (Chenoweth 2006, 29).

I began the project recognizing that I am, in fact, an outsider, and that as an outsider I cannot prevent my own musical experiences, which are very different from the musicians whose music I work with, from affecting the outcome. Ellingson gives the reminder that whenever a project to transcribe music outside our own native music culture is attempted, it is important to remember the effect the researchers bring to the project. Because of the researchers’ own cultural-musical preconditioning, “any transcription entails perceptions and judgments that must be regarded as tentative and hypothetical.” (Ellingson 1992, 146) This is another reminder that absolute objectivity, in this context, is not only impossible but not even an admirable goal.

As the process of listening to audio tracks and transcribing notes begins, the importance of transcribing etically must be remembered. In fact, as an outsider in one sense it is impossible to not transcribe etically when first beginning. As Chenoweth points out, “A first transcription of a musical composition [by an outsider] is etic. What is heard is notated without insight into that culture’s musical universe. That is, the transcriber writes what he hears as different pitches, intervals, rhythms, and so forth; but he hears them from the point of view of one outside the culture” (Chenoweth 2006, 46-47). However, since I studied Uyghur music for several years it was not completely new to me. Certainly the process of transcribing Uyghur music was a new experience, but the music itself was not. Therefore, it was important that I consciously determine to transcribe etically, notating every note as I heard it.

Two of the earliest music researchers who wrote about the transcription and analysis of non-western music were Otto Abraham and Erich M. von Hornbostel. Much of their advice from their 1909 article entitled “Suggested Methods for the Transcription of Exotic Music” is still relevant today, despite enormous advances in technology and communication. For example, Chenoweth (1996, 587) agrees with Abraham and Hornbostel in their assertion that the Western staff is a useful tool for notating non-Western music (Abraham & Hornbostel 1994, 427). However, this position is not universally held. Gaare points
out that while the traditional staff is very useful for transcribing music for instruments for which it was developed (mainly keyboard), it “does a poor job of representing atonal and microtonal music. In addition, the system was not designed to handle the complex instruments, harmonies, and rhythms that have developed since the Middle Ages” (Gaare 1997, 18). He encourages the development of notation systems specialized for specific instruments. He mentions guitar tablature as one that developed out of a need for guitarists to be able to communicate musically with each other (Gaare 1997, 18). Ellingson informs us that many different types of non-graphic systems of musical notation exist, including: 1) aural systems (i.e. handclap patterns to represent drumbeats); 2) visual systems (i.e. hand gestures representing gong pitches); 3) kinesic or choreographic systems (i.e. hand movements to direct the performance of rhythmic cycles); and 4) tactile systems (i.e. drummers beating out drum rhythms on the shoulders of student drummers) (Ellingson in Meyers 1992, 154).

In his transcription of stringband music in Papua New Guinea, Crowdy utilizes both the traditional 5-line staff and guitar tablature (Crowdy 2005, 51). As previously mentioned, the Uyghur dutar has chromatically placed frets, thus making it conducive to use Western staff notation. However, in order to better reveal the details of fingering, following Crowdy’s example all transcriptions in this paper include a combination of the traditional 5-line staff – two staves, in fact, in order to notate each string separately – with a guitar tablature modified to suit the two-string dutar. The string parts are placed on two separate staves in order to produce a clear, easily readable transcription rather than crowd the transcription with notation for both strings on the same staff. Notating the two strings on two separate staves was appropriate since the two strings function very differently. The upper string is fingered by the left hand to play the melody, frequently highly ornamented, whereas the lower string, strummed by the right hand and usually either open or fingered by the thumb of the left hand, often acts as a drone accompaniment to the melody string. Figure 9 below is an example of the combination staff/tablature format that was developed for the song excerpts analyzed in this paper. (The music notation program Sibelius was used to generate this illustration as well as every other transcription in this paper.) In the illustration the top staff labeled “Melody” is associated with the top string of the dutar tablature labeled D.
Likewise, the bottom staff labeled “Drone” is associated with the bottom string of the dutar tablature labeled G. The numbers on the dutar tablature indicate the fret number where the finger is placed. For example, the “0” on the bottom string of the dutar tablature indicates that the string is strummed in open position with no fingers on the string. Likewise, the “12” on the upper string indicates that the finger is pressed down on the upper string at the 12th fret. This combination of Western staff and tablature proved to be very adequate, especially with the addition of diacritic marks.

In regard to diacritics, while Abraham and Hornbostel recognize the need to use them when transcribing non-Western music, they advise against using so many that the notation of the actual notes is obscured. Moreover, the marks that are used “should be of the type that can be learned and remembered with facility” (Abraham & Hornbostel 1994, 456). Looking again at Illustration 2 above, several different diacritics are used. For example, the diagonal line running from the last note in the first bar to the first note in the second bar indicates a glissando from one note to the next. The down arrow and up arrow over the triplet notes in the second and fourth bar are diacritics indicating left-hand finger action will be discussed later. The diacritics above the lower staff indicate direction of strum (up or down) as well as if the strum is with fingers, thumb, or both.

One of the functions of the program Transcribe! mentioned earlier – the ability to slow down the playback speed of the audio track without affecting the pitch of the notes – was extremely useful in helping to determine tones and rhythms. Since the normal tempo of most of the songs was extremely fast...
– the slowest tempo was 152 bpm\(^\text{12}\) and the fastest was 210 bpm! – it was necessary to slow down the playback speed in order to distinguish individual notes. Otherwise, the music would have rushed by so fast it would have been impossible to transcribe it accurately. This relates to another piece of advice from Abraham and Hornbostel. They suggest that complex rhythms should “be examined at slow speed… However, one should make it a rule to follow this by an examination of the passage at the normal tempo. Reducing the speed produces melodic distortion and thus conceptions which will not match those produced when listening to the passage at the normal speed” (Abraham & Hornbostel 1994, 445) List agrees, pointing out that what he could hear at slower speeds could sometimes not be verified at normal speed (List 1974, 356). This turned out to be true in this case as well. After a difficult passage was transcribed, it was necessary to repeatedly listen to the same passage at normal speed in order to double-check the results.

Another useful tool for transcription is the previously mentioned computer program Melodyne Editor. It represents a recent technological breakthrough in that it has the ability to graphically display polyphonic music, something that ethnomusicologists have only dreamed of being able to do for many years. Seeger’s early Melograph was useful for helping transcribe monophonic music, but beyond even this limitation it had its definite drawbacks, as Jairazbhoy explains, “The Melograph could only cope with a single melodic line, a phenomenon which is not too common in the natural course of events. Even so, it presented a profusion of visual data, involving tolerances much finer than the ear can distinguish, thus creating a new series of problems for the interpreter” (Jairazbhoy 1977, 264). Now, to be able to see a graphic representation of polyphonic music would seem to be wonderful news. And indeed, it is extremely useful. However, like the Melograph, Melodyne Editor also has its limitations, almost identical to the limitations ascribed to the Melograph by Jairazbhoy. Figure 10 below is a transcription sample of the first three bars of Achil, one of Heyt’s songs, side by side next to a partial screenshot of the same three bars of Achil as represented by Melodyne Editor. Keep in mind that the dutar has only two strings.
Comparing the notation on the left with the Melodyne Editor display on the right, the tones in the display on the right that correspond with notes in the transcription on the left should be discernible. However, other than the first beat of the first bar, which accurately displays the two tones – D and A – that are being played, from there onward it appears that more than two tones can be heard. Indeed, at the end of the second bar it appears that five different tones are sounding at the same time! Even with a technological breakthrough like the capability to graphically display polyphonic music, technology has not replaced the task of the researcher, to use his own skill at deciphering a musical recording. As Ayangil stated so aptly regarding a spectral analyzer, the same can be said of Melodyne Editor, that even though it “might be able to give the spectral content of a musical tone and may well record the presence of certain frequencies which we are unable to hear, the interpreter has the unenviable task of determining which of the frequencies are meaningful” (Ayangil 2008, 265).

Even with its weaknesses, however, Melodyne Editor is very useful in helping to verify tones. It will display all tones that are present in the recording, including overtones. If a transcription includes a certain tone in the notation and it is not shown on Melodyne Editor, it is transcribed incorrectly. So while Melodyne Editor might not be quite ready for use as a stand-alone tool for determining polyphonic pitch, it was valuable as a tool for double-checking the transcriptions.

Because of the inherent limitations in Western staff notation regarding pitch, it was necessary to use accidental markings. This brought up the practical question of how accidentals should be notated. In
the original transcriptions, following an etic approach, each tone was notated on the staff, using accidentalss whenever necessary. This frequently required the use of multiple accidentals in one bar. As the transcription process progressed, it became evident that, on the whole, the tonality of the songs stayed constant. In other words, if a tone was raised in a certain bar, every occurrence of that tone in the bar was also raised. (There were a few exceptions, but their manner of occurrence proved the rule rather than negating it. This will be discussed further in Chapter 4.) Therefore, the following rule concerning the use of accidentals was applied to all transcriptions: an accidental was used in the first occurrence only in each bar, with the accidental applied to all other occurrences within the same bar. This rule applies only to tones of the same register.

Regarding the notation of rhythm, most Uyghur folk songs have a discernable beat, often recognizable as 4/4, 2/4 or 6/8. This is true of all the song excerpts analyzed in this study. Therefore, besides using Western staff notation the transcripts in this study also include standard bar lines and time signatures. Equipped with all of the tools mentioned above, transcripts of each of the song excerpts were completed. With these initial transcriptions complete, the task then turned to analysis, which is the subject of Chapter 4.
CHAPTER FOUR: ANALYSIS

It is important to note that the analytic methodology used in this study did not include the option of checking conclusions with Uyghur musicians. Without this resource, Avery’s observation is eminently applicable, “Intention [of the composer] is something that is impossible to observe directly so we must make approximations based upon the observable data” (Avery 2005, 4). This is an accurate description of the results of this analysis – approximations.

Different aspects of the analysis process have different purposes. Some of the data generated by the Analytic Inventory Sheet is quantitative, and other data is qualitative. Avery explains:

Qualitative analysis of music is the categorization of musical phenomena based on the presence or absence of qualities or characteristics…By quantitative analysis we mean the description of musical phenomena using elements that we can count or in some other fashion measure with numbers… Quantitative analysis, in general, underscores the differences between musical phenomena, whereas qualitative analysis emphasizes the similarities shared. (Avery 2005, 1)

As applied to different sections of the Analytic Inventory Sheet, the tonal inventory, tonal succession chart and interval succession chart are all examples of quantitative analysis in that they generate actual numbers used to make conclusions about the music. On the other hand, the description of the melodic contour of each song excerpt is an example of qualitative analysis in that it describes a quality of that aspect of the song excerpt. Both quantitative and qualitative data are useful for gaining a better understanding of the music.

“Uyghur Flavor”

After the transcriptions of all the song excerpts were complete, they were examined carefully, individually as well as side by side, to see what type of ornamentation they contained. But a more foundational question needed to be answered first, before the ornamentation in the song excerpts could be identified: what is Uyghur ornamentation? Nettl and Riddle make the observation that “what constitutes an ornament in one culture may be part and parcel of the melodic material to another” (Nettl & Riddle 1973, 26). It could also be true that what one culture calls an ornament another culture might appear to treat as an ornament but not call it such.
Uyghur musicians use a word from Uyghur food culture – *purakh*, which can be translated into English as flavor, taste or feature. This word is used to describe an item to which something has been added for adornment. Other than food, Uyghurs commonly apply the concept of *purakh* to architecture (see fig. 11) and music. Uyghur musicians use this word in referring to the tones that are added to a basic melody. If a Uyghur song is played with only the basic melody, it has no *purakh*, no Uyghur flavor. In Tsekou’s interview with Kamil Abbas, she quotes him as saying, regarding Uyghur purakh, “Western music is based on precision, on playing the exact pitch. In contrast, beauty in Uyghur music is in…the moments in between the notes, that take one somewhere else, to the desert” (Tsekou 2003, 10).

Most Uyghurs do not receive formal music instruction in order to learn how to play one of the traditional Uyghur instruments, at least not how it is conceived of in the West, following a printed curriculum. Rather, they learn how to play a musical instrument by asking a relative to teach them, or by becoming an apprentice of a well-known musician. This is common practice throughout Central and South Asian music cultures (Harris 2009, 157). Manuel notes that the same is true of most flamenco artists (Manuel 2006, 117). Millward points out that “During their apprenticeship, disciples would play percussion on the dap frame-drum while the master sang and played the dutar…In this way, the pupil could internalize the complex rhythms, poetic lyrics, melodies, and rules of ornamentation before performing muqam on a melodic instrument themselves” (Millward 2005, 12). In contrast, formal instruction instituted by the government has not been successful, at least in the eyes of recognized traditional musicians. Light tells of the experiences of Ömär Akhun, a muqam expert:

The teaching methods that he [Ömär Akhun] was forced to use at the Art School failed to produce true muqam performers, he said. The problems included lack of intensive study and too much reliance on written music and texts. Literacy and classroom teaching had replaced mastery through aural familiarization followed by practice…‘They are reading while they play, because they did not learn it.’ (Light 2008, 183)
It is evident that if the goal is mastery of *purakh*, the most effective music training occurs in the context of a teacher/apprentice relationship. Yet even here, while a teacher would teach his apprentices the skills necessary to add *purakh* to a song, they do not focus on individual ornaments as defined by Western music theory. In fact, music theory per se is not addressed at all, but rather performance techniques. Through interaction with the teacher, apprentices would internalize the necessary concepts in order to become proficient musicians even though this process does not include formal instruction in music theory. Similarly, Manuel states regarding a traditional flamenco artist, “Whether or not a flamenco artist is able to verbalize such concepts [as music theory] has little or no bearing on that musician’s ability to perform” (Manuel in Tenzer 2006, 116). For Uyghur musicians, even though the various expressions of *purakh* that are added to melodies might sound – or if notated, look – exactly like a grace note, mordent, glissando or trill, the Uyghur musician refers to all ornamentation collectively as *purakh*.

But the question presented above still remains, although maybe now it could be stated slightly differently: how can *purakh* be distinguished from the basic melody? My dutar teachers described *purakh* as the extra notes that are played in the left hand that are not strummed by the right hand. Following this explanation, it was a matter of locating in the transcript the notes that are played only in the left hand. Figures 12 and 13 below show two versions of a 3-bar transcript from *Otlukh Nidalar*. Figure 12 on the left is a transcript with all notes. The notes that have corresponding down arrow (and one up arrow) diacritics are the notes that are played only by the left hand. There is no corresponding strum in the right hand with these notes (see dutar tab in illustration). Figure 13 on the right is the same 3-bar excerpt.

![Figure 12. Music with purakh](image1)

![Figure 13. Music without purakh](image2)
without the notes in the left hand that were not strummed by the right hand. The basic melodic structure is intact, but that is all – just melody, no added notes, no purakh.

It would be helpful at this point to explain the arrow diacritics. The down arrow represents a technique commonly used by string players. Western musicians call this technique a hammer-down. The musician plays “the lower of two notes and then hammers down on the higher pitch with [a finger on] his left hand instead of using the right hand to create the sound” (Curry, n.d.a). A dutar player employs this same action, causing the string to ring out with the raised pitch when the finger hammers on the string.

Figure 14 shows one bar from Livän Yala with two hammer-ons. The time signature is 2/4, and the recorded tempo is approximately 178 bpm. The first beat of the measure is a fingers-only downstroke strum with the right hand holding the thumb of the right hand up, ready for the next down-stroke, a thumb-only downstroke. At the fingers-only downstroke, a finger of the left hand is positioned at the 7th fret (see dutar tab) of the higher string which gives the pitch of A. The lower string is played open. Immediately after the fingers-only downstroke strum, the musician presses a finger down on the 8th fret, causing the string to play a Bb. This takes place before the next strum, so the hammer is the only action causing the sound. Next the musician performs the thumb-only downstroke strum at the same time as raising the finger off the 8th fret thus allowing the finger still on the seventh fret to be in position for the A to sound when the string is strummed. The musician once again then presses down on the eighth fret between strums for the second hammer, causing the string to play a Bb. The musician then finishes playing the bar by quickly placing a finger on the fifth fret and performing a thumb-only upstroke, followed by a fingers-only upstroke.

The up arrow in Figure 15 indicates a technique I have called a release, which is the opposite of the hammer-on. The release is similar to, but not the same as, a technique used by string players that Western musicians call a pull-off. To perform a pull-off, “the player plucks or picks the higher of two notes and then pulls his left hand sideways off the string, leaving the lower pitch sounding” (Curry, n.d.b). As played on the higher string of the dutar, the musician has two fingers pressing on the string at the same
Figure 16. Pull-down played in the drone (lower) string in Tüt Khulakh

Time, one on a higher fret and the other on a lower fret. He then quickly pulls the finger that is on the higher fret off the string (without pulling it sideways, as in the pull-off), thus causing the string to ring out with the lower pitch located where the other finger is still pressing down on the string.

Like the hammer-on, this action takes place while the string is not being strummed, thus making the action of lifting the finger from the string the sole source of the lowered pitch that rings out. Figure 15 shows an example of a release from a portion of one bar of Otlukh Nidalar. There is one exception in the song excerpts analyzed in this study. In Tüt Khulakh Tursun uses a pull-off in the drone string, which is indicated by an up arrow with a point over it (see fig. 16). Other than this exception, all ornaments of this type found in the analyzed excerpts are as the release described above.

The up arrow and down arrow diacritic marks used in all the transcriptions of the song excerpts indicate the direction of the finger in relation to the string on notes that are played solely by the left hand as a hammer-on or release. The transcriptions do not include finger direction diacritic marks for every note played by the left hand, but only for the notes played without an accompanying strum.

Figure 15. Release

Figure 16. Pull-down played in the drone (lower) string in Tüt Khulakh

According to my Uyghur informants, finger movement independent of strumming – either down in the hammer-on or up in the release or pull-off – is the main feature that constitutes purakh.

The excerpted portions of the selected songs, as previously noted, are instrumental sections of the songs. By virtue of being an instrumental section and not a part of the song that is intended to be sung, the
instrumental sections are not necessarily an example of the melody of the song. Rather, they are opportunities for the musician to display his virtuosity on the dutar. Therefore, the very nature of these instrumental sections lends itself to the addition of not only purakh but also the expression of the personal style of the musician. One method is to vary the type of purakh used in the repeated sections. Uyghur musicians would agree with the Maguindanaons in the Philippines who think that hearing a piece of music the same twice is boring (Posner 1996, 19). Likewise, Sergeant and Lahiri state that the “Hindu musician would regard the suggestion that he play the same thing twice in the same way as an insult to his imaginative powers” (Sergeant & Lahiri 1931, 432). Similarly, Manuel describes flamenco guitar playing as containing “little or none of the sort of free improvisation encountered, for instance, in jazz. However, the choice of falsetas, and the ongoing extemporized flourishes and variations lend the guitar playing an essential flavor of looseness and spontaneity” (Manuel 2006, 100).

In the same manner, Uyghur musicians also think highly of introducing variation in a song, and with the amount of repetition found in most Uyghur songs, a musician has ample opportunity to introduce variation, even if it is as simple as changing a quarter note to two eighth notes or two eighth notes to four sixteenth notes, as can be seen in many of Heyt’s songs. However, this type of variation should not be considered Uyghur flavor, but rather personal style. In strumming sixteenth notes very quickly and for a long period of time, Heyt is showcasing his skill as a dutar player, not necessarily adding purakh to his song.

After each song excerpt was transcribed, including the diacritic marks that indicate all the hammer-ons and releases associated with purakh, a second transcription for each song excerpt was created, this time without purakh. The purpose for creating this second transcription was to have available a transcript that would contain the melody structure without purakh, from which to extract data using the Analytic Inventory Sheet. If the extra notes that made up purakh were also included in the transcriptions, they would have skewed the results for the tonal inventory, tonal weighting chart, tonal succession chart and interval succession chart, because these extra notes are not considered part of the song structure. In my analysis of these excerpts I have used both types of transcriptions – the transcriptions that include purakh,
and the transcriptions with *purakh* removed. For the portions of the Analytic Inventory Sheet that specifically dealt with ornamentation, I used the first set of transcripts that included *purakh*. For all other portions of the Analytic Inventory Sheet I used the transcripts without *purakh*. An Analytic Inventory Sheet with analysis results for each song can be found in the appendices. In the next section, key parts of the Analytic Inventory Sheet will be explained.\(^1^7\)

**Analytic Inventory Sheet**

It is important to point out once again that the data which was analyzed are excerpts rather than whole songs. Therefore it is possible that some of the data generated by the Analytic Inventory Sheet gave different results than data gathered from the whole song. For example, one step of the process of gathering information for the Tonal Succession Chart was to write down the beginning and ending notes. These notes were then later used to help determine tonal center. Since the ending note of these excerpts is not necessarily the same note as the ending note of the song, the value of using the ending note (in combination with several other factors) to determine tonal center is lessened. Also, in many of the excerpts the musician repeats a note several times at the end of the instrumental solo in preparation to begin a verse. These reiterations have the possibility of skewing the data since they are incorporated as part of the total, so the data generated by the analysis of these excerpts might give the impression of that particular string of reiterations being more significant than it might otherwise have been, had it been gathered with data from the whole song. Nevertheless, while these exceptions might influence individual data, they do not affect the overall conclusions of this study.

**Key/Tonal Center**

Table 1 below is a chart showing a summary of selected data from the Analytic Inventory Sheets from all of the song excerpts. The second column is entitled “Key/Tonal Center.” The data from the tonal inventory and the transcription of each song excerpt suggests that the tonal inventory of each song comprises tones associated with recognizable keys from Western music theory – D minor, G minor and G
### Analytic Inventory Sheet – Compilation of Selected Data

<table>
<thead>
<tr>
<th>Musician’s Initials/Song Title</th>
<th>Tonal Center/Key</th>
<th>Accidents</th>
<th>Most Frequently Used/Interval Successions</th>
<th>Conjunct/Disjunct</th>
<th>Form</th>
<th>Melodic Contour</th>
<th>Strum Patterns</th>
<th>Excerpt Duration (seconds)</th>
<th>Meter</th>
<th>Tempo (bpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH/Navagam</td>
<td>D minor</td>
<td>Eb5</td>
<td>u-u; m2d-M2d; u-M2d; m2a-M2a</td>
<td>61/23</td>
<td>ABA1</td>
<td>undulating</td>
<td>6, 1-5-6, 1-5, 3-6</td>
<td>38</td>
<td>4/4</td>
<td>167</td>
</tr>
<tr>
<td>AH/Achil</td>
<td>D minor</td>
<td>none</td>
<td>u-u; M2a-M2d; M2d-u; M2d-M2a</td>
<td>41/13</td>
<td>AA1</td>
<td>undulating</td>
<td>1-3, 3-3, 6-1, 6-3</td>
<td>14</td>
<td>2/4</td>
<td>152</td>
</tr>
<tr>
<td>AH/Ayaas</td>
<td>D minor</td>
<td>Eb5</td>
<td>u-u; m2d-M2d; m2a-m2d; M2d-m2d</td>
<td>43/26</td>
<td>ABB1B2A1</td>
<td>waves</td>
<td>1-3-2-1, 3-3-2, 7-3-2-1</td>
<td>25</td>
<td>4/4</td>
<td>158</td>
</tr>
<tr>
<td>AH/Rastchuliokh</td>
<td>G minor/D major</td>
<td>(F#4)</td>
<td>u-u; m2a-M2a; M2d-m2d; u-m2a</td>
<td>91/57</td>
<td>AA1AB2B2CDE</td>
<td>waves</td>
<td>3-3-3, 3-3-3, 3-3-3</td>
<td>34</td>
<td>4/4</td>
<td>210</td>
</tr>
<tr>
<td>AH/Anargul</td>
<td>G minor/F#4</td>
<td>u-u; M2d-m2d; m2d-M2d; u-m2a</td>
<td>87/35</td>
<td>ABB1A1</td>
<td>falling</td>
<td>3-3-3-6, 3-3-3, 6-3-3-3</td>
<td>38</td>
<td>4/4</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>AH/Dostang Umil</td>
<td>D minor</td>
<td>none</td>
<td>u-u; M2d-m2d; u-M2d; u-M2a</td>
<td>66/28</td>
<td>ABA1C</td>
<td>waves</td>
<td>Same as Anargul</td>
<td>27</td>
<td>4/4</td>
<td>198</td>
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<tr>
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<td>G minor/F#4</td>
<td>u-u; m2d-M2d; M2d-m2d; u-m2d</td>
<td>50/37</td>
<td>AA1A2A0BA1</td>
<td>Pendulum, slight waves</td>
<td>6-3-3, 3-3-3, 6X3, 1-3-3</td>
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<td>167</td>
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<tr>
<td>AH/Yatan Khisht</td>
<td>G minor/F#4</td>
<td>u-u; M2a-M2a; M2a-m2a; u-M2d; u-M2a</td>
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<td>ABCDE</td>
<td>waves</td>
<td>3X3, 1-3-3, 6X3, 1-1-1</td>
<td>42</td>
<td>6/8</td>
<td>175</td>
<td></td>
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<tr>
<td>AJ/Oymag Yatlim</td>
<td>G major</td>
<td>none</td>
<td>u-u; P4a-P4a; u-P4d; m2a-m2d; P4a-u</td>
<td>24/6</td>
<td>ABC</td>
<td>waves</td>
<td>3-3-1, 3-3-1, 3-1</td>
<td>13</td>
<td>2/4</td>
<td>192</td>
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<tr>
<td>AJ/Asragan Antomic</td>
<td>G minor</td>
<td>none</td>
<td>u-u; m2a-m2d; m2d-M2d</td>
<td>26/5</td>
<td>AA1B</td>
<td>arc, gentle waves, level</td>
<td>1-5, 3, 6, 1, 8-3</td>
<td>15</td>
<td>2/4</td>
<td>164</td>
</tr>
<tr>
<td>AM/Livak Yab</td>
<td>C major/D minor</td>
<td>(B4)</td>
<td>u-u; m2d-M2d; M2d-u; u-M2d</td>
<td>24/17</td>
<td>ABCB1</td>
<td>undulating, level, waves</td>
<td>1-5, 6, 3</td>
<td>19</td>
<td>2/4</td>
<td>178</td>
</tr>
<tr>
<td>AM/Olakh Nicalar</td>
<td>G minor</td>
<td>E5</td>
<td>u-u; M2d-u; u-M2d; M2d-m2d; M2a-u</td>
<td>47/28</td>
<td>ABA1B1B3B3</td>
<td>much variety</td>
<td>3, 4-2, 6</td>
<td>35</td>
<td>2/4</td>
<td>172</td>
</tr>
<tr>
<td>ST/Dositoon Khwareyriya</td>
<td>G major</td>
<td>none</td>
<td>u-u; M2d-u; u-M2a; M2a-u; m3d-u</td>
<td>23/11</td>
<td>AB</td>
<td>waves, level</td>
<td>3, 1-5-6, 6-1-3</td>
<td>13</td>
<td>2/4</td>
<td>197</td>
</tr>
<tr>
<td>ST/Tat Kwaakh</td>
<td>G major</td>
<td>none</td>
<td>u-u; M2a-M2d; M2d-M2d; M2d-M2a</td>
<td>22/16</td>
<td>AB</td>
<td>popcorn</td>
<td>3-3, 3-6, 6-6-5</td>
<td>15</td>
<td>4/4</td>
<td>196</td>
</tr>
</tbody>
</table>

Table 1. Selected data from combined Analytic Inventory Sheets
major, with brief mode changes of what appear to be C major and D major. The tuning of the two strings of the dutar in fifths – G3\(^{18}\) in the lower string and D4 in the upper string – lends itself to playing in these keys. However, more research needs to be carried out, and this data needs to be checked by Uyghur musicians before conclusive results can be reached.

Examining the two instances of what appear to be mode changes, the first eleven bars of Livän Yala which comprise the first melodic phrase, have six occurrences of B4 natural. The tonal inventory of these eleven bars appears to be tuned to the key of C major. Then in bars 12-16, which contain the second melodic phrase, there are three occurrences of Bb4. Studying the tonal inventory of this section, this change from B4 natural to Bb4 appears to change the mode from C major to D minor. (See fig. 17 below)

Likewise, in Rastchilikging (see fig. 18 below), even though the excerpt appears to be tuned to G minor, Heyt’s use of F# in bars 9-10 causes it to appear that he has changed modes from G minor to D major, but only for the duration of these two bars. The fact that he arpeggiates the tones of the D major triad in the melodic phrase of these two bars accentuates this impression.
Figure 18. Mode change in Rastchilikhing

Accidentals

Data in the third column entitled “Accidentals” are closely associated with data regarding tonal center or key. The accidentals listed in this column are labeled as such because they are tones that would be considered not part of the specific key which that song is tuned to. For example, in Äynäk there are two occurrences of Eb5, which is not one of the tones in the key of the D minor. These two occurrences are played as the highest point of two similar melodic waves. However, there are also two occurrences of E5 natural as well as eight occurrences of E4, all of which are played in varying positions of various melodic contours. Based on the data it appears that Heyt’s use of Eb5 is not included in the tonal inventory of the key of D minor, but is rather an example of “recurrent raised or lowered intervals” (Harris & Mukhpul 2002, 547) that are frequently found in Uyghur folksongs, in this case a lowered interval. Heyt’s single use of an Eb5 in Nazugum is much the same. Likewise, the accidentals in Khizlar, Vätän Khädri and Otlukh Nidalar all appear to be instances of a lowered interval that is not part of the tonal inventory of the key to which these songs are tuned. Each excerpt contains multiple occurrences of the corresponding tone (F instead of F# for Khizlar and Vätän Khädri, Eb instead of E for Otlukh Nidalar) that is part of the tonal inventory of the key these songs are tuned to. (The parentheses around the accidentals for Rastchilikhing and Livän Yala indicate that while they are accidentals outside the tonal inventory of the main key to which the song is tuned, these accidentals are included in the tonal inventory of the mode that is briefly used in each of these songs.)
Another unusual tone was an F#4 in *Anargüli*. This song appears to be tuned to the key of G minor, which does not include an F# in its tonal inventory. However, Heyt played F# several times throughout the excerpt. Not only is this tone not part of the tonal inventory of G minor, but the context in which Heyt played it was usually before an Eb4, which created an A2d (augmented second descending) interval. This song excerpt has the only instances of an A2 – descending or ascending – in any of the 14 song excerpts analyzed. Moreover, it was not played as an additional note as *purakh* because it was played in the left hand with accompanied strumming in the right hand (see the transcription for *Anargüli* in the appendices). Therefore, based on all of the data available, it appears that Heyt’s use of this F#4 fit into Harris’ category of “recurrent raised or lowered intervals” (Harris & Mukhpul 2002, 547). Instead of being a “normal” feature of the tonal inventory, it was classified as an accidental.

**Interval Succession**

The fourth column of Table 1 above lists the most frequently used interval successions in each excerpt. An interval succession is one interval following another. For example, Figure 19 shows two interval successions. The first is an interval succession of a major second descending followed by another major second descending. This interval succession is abbreviated as M2d-M2d. In this illustration, the M2d-M2d is followed by a M2d-M2a (major second ascending). In Table 1 above, the most commonly used interval succession is u-u (a unison interval that is followed by another unison interval). Table 2 below is a chart that shows the interval successions used in *Livän Yala*. The number in each cell indicates the total number of times that particular interval succession occurred in *Livän Yala*. The empty cells represent interval successions that did not occur in *Livän Yala*. Agreeing with the data indicated in Table 1 above, the data in Table 2 indicates that the most common interval succession in *Livän Yala* is u-u.
Table 2. Interval Succession Chart – *Livän Yala* (B)\(^9\)

<table>
<thead>
<tr>
<th></th>
<th>u</th>
<th>m2d</th>
<th>m2a</th>
<th>M2d</th>
<th>M2a</th>
<th>m3d</th>
<th>m3a</th>
<th>M3d</th>
<th>M3a</th>
<th>P4d</th>
<th>P4a</th>
<th>P5d</th>
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<tbody>
<tr>
<td>u</td>
<td>26</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>1</td>
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<tr>
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</table>

Table 3 below is a combined interval succession chart of all interval successions that occur between u-u and m6a-m6a\(^{20}\) in all the excerpts. In fact, the interval succession of u-u is the most common succession of all the excerpts by a factor of 10! The total number of u-u interval successions that occur throughout all of the excerpts is 610. The next most frequently used interval succession is M2d-m2d (major second descending to minor second descending), occurring 53 times throughout all the excerpts. The interval succession data in Illus. 17 above shows that, except for one notable exception (*Oynang Yarlırim*, which uses many intervals of P4 ascending and descending), all of the most frequently used interval successions include a combination of a unison interval and/or an interval of a second, either major or minor, ascending or descending. This indicates that a majority of the intervals in these excerpts are close interval steps rather than large interval jumps. This contributes to the smooth melodic contour that is found in most of these excerpts.

The gray cells in Table 3 above correspond with interval successions that do not occur in any of the song excerpts. The black cells are also interval successions that do not occur in any of the song excerpts, but this diagonal line of unused intervals are the reiterations of interval successions. In other words, the second interval in the succession is the same as the first. In this diagonal line of reiterated interval successions, all but three cells in this line are empty, and the three cells that are used represent the most
### Combined Interval Succession Chart

<table>
<thead>
<tr>
<th></th>
<th>u</th>
<th>m2d</th>
<th>m2a</th>
<th>M2d</th>
<th>M2a</th>
<th>m3d</th>
<th>M3d</th>
<th>M3a</th>
<th>P4d</th>
<th>P4a</th>
<th>P5d</th>
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</tbody>
</table>

Table 3. Combined chart of all interval successions in all songs
frequently used interval succession (u-u) and two interval successions that are among the other most frequently used – M2d-M2d, with 34 occurrences, and M2a-M2a, with 29 occurrences. This negative data is potentially just as important as the other data because, as Avery points out, these empty cells “represent movements which did not occur in the melody and which may not be allowed in the system. Our usual assumption is that, once we know what notes are used, we can put them in any order. This is not necessarily the case and we must observe any systemic limitations if we are to compose music in the style we are studying” (Avery 2005, 6). Based on the available data, it appears that several interval successions are not used by Uyghur dutar players. A question for further research in this area might be: Do the interval successions that are not used by Uyghur dutar players have any relation to purakh?

Conjunct/Disjunct Motion

Referring again to Table 1, the fifth column in the chart contains data concerning conjunct and disjunct motion. This refers to the degree of motion that occurs in the intervals. An interval to the next nearest tone – either descending or ascending – represents conjunct motion. For example, the first interval in Figure 20 is an example of conjunct motion because the F is the next nearest tone to the E in ascending motion. An interval that moves to a tone further removed than the next nearest tone represents disjunct motion. For example, the last interval in Figure 19 is an example of disjunct motion because the E is further from the G than the nearest possible tone – an F. A song with more conjunct motion than disjunct motion will have fewer jumps and more stepwise movement. Conversely, a song with more disjunct motion will have more jumps and less stepwise movement. Table 4 below is the Tonal Succession Analysis for Nazugum. Besides other data that will be explained later, this chart contains a graphic display of conjunct and disjunct motion. The cells that are shaded dark gray indicate reiterations (motion from a tone to the same tone – G4 to G4, for example), and the cells that are shaded light gray indicate conjunct motion. The unshaded cells indicate disjunct motion. It is evident from Illus. 24 that the excerpt from Nazugum contains far more conjunct motion than disjunct motion – 61 iterations of conjunct motion compared with
23 iterations of disjunct motion. Cross-referencing this data with the transcript of *Nazugum* in the appendices will highlight the abundance of conjunct motion in the transcript. Related to conjunct motion are the reiterations that are indicated by the dark gray cells. With the exception of Eb5, which is an accidental and appears only once in the excerpt, every tone has multiple reiterations. This causes the melodic contour to have a smoothly undulating shape, as is noted in the data in Illus. 17 above.

Table 4. Tonal Succession Analysis - *Nazugum* (B)

<table>
<thead>
<tr>
<th>BEG</th>
<th>X</th>
<th>FL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eb5</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>D5</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>C5</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Bb4</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>A4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>G4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>F4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>E4</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>D4</td>
<td>24</td>
<td>5</td>
</tr>
</tbody>
</table>

IT - 35 27 31 26 42 28 15 13 1 = 218

<table>
<thead>
<tr>
<th>FL - (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 4 5 6 6 3 4 3 1</td>
</tr>
<tr>
<td>(C)</td>
</tr>
<tr>
<td>4 4 3 2 6 4 3 3 1</td>
</tr>
<tr>
<td>10 8 8 8 12 7 7 6 2</td>
</tr>
</tbody>
</table>

DU 49 26 29 29 44.5 22 8.5 7 1

The unshaded cells above and to the left of the shaded cells in Table 4 above correspond to various types of tonal successions from a higher to a lower pitch (e.g. A4-E4). Likewise, the unshaded cells below and to the right of the shaded cells correspond to various types of tonal successions from a lower to a
higher pitch (e.g. D4-Bb4). With very few exceptions, the iterations with disjunct motion are located near
the bottom left corner of the chart, indicating that the majority of disjunct motion in *Nzugum* occurs
among the lower pitches. In examining the Tonal Succession Charts for the other song excerpts in the
appendices, certain tendencies are discernable. For example, with few exceptions most of the song
excerpts have a much greater number of conjunct motion iterations than disjunct motion iterations. Also,
some of the excerpts have a noticeably higher percentage of disjunct motion iterations in the left area of
the unshaded cells, indicating a greater number of downward interval jumps.

The data located directly under the chart in Table 4 give information regarding the number of
iterations (IT) for each tonal succession (the first line of data under the chart), the flexibility (FL) of each
tone (the next three lines of data), and the duration (DU) of each tone in the transcript (the bottom line of
data). These three data – iterations, flexibility, and duration – are used to help determine tonal center of a
song, in conjunction with the beginning and ending tones.21 An explanation of the duration data is
included in the section below entitled Tonal Duration. To determine the number of iterations, each tonal
succession is tallied individually from the transcript onto a blank Tonal Succession Chart. For example, to
tally the tonal successions in Figure 19 above, a hash mark would be added to the cell at the junction of
E4 and F4, then F4 and G4, and finally G4 and E4. After all of the tonal successions in the song are
tallied in their corresponding cells, the hash marks in each cell would be totaled. Then the total number of
hash marks in each column would be totaled, giving the total number of iterations for each tone. The total
number of iterations for the song is shown to the right of the individual column totals. Table 4 shows a
total number of 218 iterations for the *Nzugum* excerpt.

The flexibility data (FL) corresponds to the number of different tones a particular tone can move to
or away from. The more tones a given tone can move to or away from, the more flexible that tone is. The
flexibility data under the chart in Table 4 above contain three lines of data. The first line corresponds with
the flexibility data of the tones as indicated in their respective rows (R). The second line corresponds with
the flexibility data of each tone as indicated in their respective columns (C). To determine the flexibility
of each tone, the number of cells that contain numbers is counted, both in the rows and in the columns.
For example, in Table 4 the row corresponding to F4 contains five cells with numbers. That is the number 5 which is located under the F4 column in the (R) line of data. Next, the amount of cells with numbers in the F4 column are counted. However, one point must be remembered: the dark shaded cell that represents the number of reiterations must be counted only once. The flexibility for each tone is determined by counting the number of different iterations that are possible for each tone, and since the cell in the dark shaded cell represents reiterations, it should be counted only once. So the total number of cells with numbers in the F4 column – not including the dark-shaded cell, since it was already counted with the cells in the F4 row – is three. That is the number seen in the (C) line of data. These two numbers are then totaled, giving F4 a flexibility score of eight.

The duration of each tone in the tonal inventory of an excerpt is determined directly from the transcription. The duration data is included on the Tonal Succession Chart – for example, at the bottom of Table 4 above – for the sake of convenience, since it is used in conjunction with other data from the Tonal Succession Chart. To determine the total duration for each tone, the number of iterations for each tone in a song are counted. However, the iterations must be weighted properly in order to accurately determine duration. To weight the tones properly, a duration unit needs to be selected. The unit is usually the type of unit that is used most frequently in a song. The unit selected for the Nazugum excerpt was an eighth note. After selecting the unit, each iteration of each tone is counted, calculating the duration based on the basic unit of duration. For example, since the basic unit of duration chosen for Nazugum was an eighth note, a quarter note in the transcript would be counted as two iterations, a dotted eighth note would be counted as one and a half iterations, and a sixteenth note would be counted as a half iteration.

Referring back to the Tonal Succession Chart for Nazugum in Table 4, the data indicates that both D4 and A4 are strong tones, having a high iteration, flexibility and duration count. This is understandable, since the D4 and the A4 are two of the tones that make up the root triad in the key of D minor. The next strongest tone, in fact, is the third tone of the triad – F4.
**Form**

The sixth column in Table 1 above contains data related to the form of each excerpt. Concerning the determination of the form of songs, in her very useful book entitled *Melodic Perception and Analysis*, Chenoweth offered the following advice, “Structural features determine phrases, and all forms of repetition should be sought” (Chenoweth 2006, 62). This is excellent advice particularly since most Uyghur songs contain a large amount of repetition, and these repeated portions were valuable in helping to determine phrases. The format used in this paper to indicate phrases followed both Chenoweth and Avery’s advice to arrange phrases using a pattern consisting of capital letters to designate distinct phrases or derivatives of phrases (e.g. ABA₁) and small case letters to designate sub-phrases (e.g. A=abcdc₁c₂) (Chenoweth 2006, 94-95; Avery 2005b). However, it is important to note that the form of these excerpts might not necessarily reflect the overall form of the whole song.

The forms used in the song excerpts ranged from the simple AA₁ phrase form in *Achil* with a subphrase form of A=ab; A₁=a₁b₁, to the complex form of AA₁A₂BB₁CDE in *Rastchilikching* with a subphrase form of A=a₁a₂b₂a₃a₄; A₁=a₁a₂b₂a₃; A₂=a₁a₂b₂a₃; B=ca₁c₁da; B₁=b₁a₈c₂b₃; C=ee₁c₂b₄; D=ff₁f₂; E=e. The data appears to indicate that Heyt’s songs tend to have a more complex form than the other musicians. However, there are a number of exceptions to this statement, the most obvious being the form of *Achil* above. *Achil’s* phrase form is the simplest of all the song excerpts, and yet it is one of Heyt’s songs. Once again, more research needs to be done – and on complete songs, not just excerpts – to verify whether or not Heyt’s songs tend to be more complex than other dutar players.

**Melodic Contour**

Referring back to the data in Table 1 once again, the seventh column lists data relevant to the melodic contour of each excerpt. There is consistent similarity of the melodic contour of most of the song excerpts. The words “wave” and “undulating” were borrowed from Chenoweth (2006, 92-93) to describe the contour of most of the songs. This points to the abundant use of reiteration and conjunct motion, making the melodic contour more smooth as compared with a melody that contains more disjunct motion. 

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that causes it to seem to have sudden jumps. The “wave” pattern found in most songs begins on a relatively high note and gradually descends, usually in stepwise fashion. Then a jump up to another higher note begins the next wave. The data suggests that this is a common characteristic of many Uyghur folk songs, although obviously not all. For example, Otlukh Nidalar’s melodic contour is complicated, with many changes. The descriptive word “popcorn” was used to portray the melodic contour of Tüt Khulakh due to the greater occurrence of jumps that cause the melodic contour to quickly change direction.

**Strum Patterns**

The eighth column in Table 1 above indicates the strum patterns that each musician uses. Most Uyghur dutar players – including the four musicians whose technique was analyzed in this paper – use a constant, basic strum motion of down-up, striking the strings with the fingers on each strum. Dutar players embellish this basic strum motion a host of different ways to add variety and interest. Some of the more common methods are described below:

- Doubling the tempo in such a way that the song is still sung at the same tempo but the dutar is strummed twice as fast.
- Separating out the fingers from the thumb so that on each stroke the fingers and the thumb strum the strings separately. This has the effect of changing the basic 2-count down-up strum into a 4-count down-up strum.
- Doubling the tempo of the separated finger-thumb strum above.
- Syncopating the strum pattern by not strumming on selected strokes, either down or up, but the strumming hand continues to make the motion of the strum, even though the strings are not touched.

A strumming method commonly used to accompany Uyghur dances is the pattern described on p. 9. This pattern has a 3-3-2 duuduuduu²³ (d=downstroke, u=upstroke) rhythm that uses a version of the finger-thumb separation strum described above. Each downstroke is performed with the full hand, and the pairs of upstrokes are performed separately, first by the thumb and then by the fingers. The final upstroke is performed with the full hand. This fairly advanced strum pattern has a pulse of 3-3-2, but it is frequently played with music that has a meter of 4/4 or 2/4, thus making the pattern more complex. Curiously, none of the Uyghur musicians use this pattern. The reason for this may be that these songs were recorded in a
studio for commercial sale rather than recorded at a dance or other live event. Since there was no such event at the studio, perhaps the musicians felt no need to use the pattern commonly used with dances.

The patterns that were used by the musicians in this study are a variety of combinations of the patterns described above. Numbers have been assigned to frequently used strum patterns in an effort to be concise in Table 1. Below is a brief description for the corresponding numbers used in Table 1 above:

1. Full-hand downstroke
2. Full-hand upstroke
3. Full-hand downstroke followed by a full hand upstroke
4. Fingers-only downstroke followed by a thumb-only downstroke
5. Thumb-only upstroke followed by a fingers-only upstroke
6. Combination of 4 & 5
7. Full-hand downstroke where each finger strums the strings individually
8. Same as 7 except upstroke

These combinations represent the most commonly used strum patterns in the song excerpts. It is not an exhaustive list of every strum pattern used in the song excerpts. According to the data, the most frequently used strum pattern is #3. This is not surprising, since this strum pattern is the basic strum pattern first described in this section, the pattern which all other combinations are built upon.

**Excerpt Duration**

The total length of each excerpt, expressed in seconds, is given in the ninth column in Table 1 above. The length of the excerpts varies from 13 seconds for *Oynang Yarlirim* and *Dostlirim Käyärlärđä* to 42 second for *Vätän Khärdri*. The data appears to show that Heyt’s instrumental solos generally tend to be longer than the other musicians’ solos. However, Heyt does have one 14-second solo, and one of Ärkin Mäpiz’s solos is 35 seconds long. More research needs to be carried out in order to verify whether or not Heyt’s instrumental solos are usually longer than solos of other Uyghur dutar players.

At first glance some of these excerpts might seem too short to obtain accurate data. However, taking into consideration the fast tempo of these songs, a surprising amount of music can fit into a short span of time. For example, the transcripts for *Oynang Yarlirim* and *Dostlirim Käyärlärđä*, the two shortest excerpts, have twenty-one and twenty bars respectively. And as previously noted, this study was limited to analyzing only the instrumental portion of the songs selected due to the audio interference of
the voice during the verses. Therefore, the excerpts used by this study represent the amount of data that was available from each song.

**Meter and Tempo**

The final two columns in Table 1 above give data concerning the meter and tempo detected in each song excerpt. Each song excerpt uses a regular, consistent meter that does not noticeably vary throughout the entire excerpt. The two most commonly used meters were 2/4 and 4/4. Heyt used a 6/8 meter with one of his songs. Other than Heyt’s use of 6/8 with one song, which could be due to the limited number of songs analyzed, the data does not reveal any noticeable difference in the meter used in his songs as compared with the meter used in the other musicians’ songs.

Fast tempos were detected in all of the song excerpts. The tempos ranged from 152 bpm in *Achil* to 210 bpm in *Rastchilikhing*. The tempo sometimes slowed down slightly, particularly during a portion of the melodic contour that was flat. At this point the volume also frequently decreased slightly. Conversely, during particularly active sections the tempo and volume both tended to slightly increase. Comparing the tempo of Heyt’s songs with the tempo of the other musicians’ songs, the data does not give conclusive evidence of any noticeable difference.

**A Closer Look at *Purakh***

Earlier in this chapter the Uyghur concept of *purakh* was introduced and an explanation given regarding the two main ornamentation techniques that are used to add *purakh* to songs by Uyghur dutar players – the hammer-on and the release. These techniques need to be studied much closer, particularly in regard to how each of the musicians uses them. The possibilities of combinations using these two simple techniques are numerous. This section examines the number of times and under what circumstances each musician applies *purakh* to their music.
Looking specifically at different combinations of these ornamentation techniques used in the song excerpts, Table 5 below shows a summary of the number of times each musician performed these techniques in the song excerpts. The number below the name of each musician is the number of excerpts analyzed from their songs. This puts into perspective the number of techniques each of them used. In order to have a stronger basis for making conclusions, more data needs to be collected, which means that more songs need to be analyzed. The chart above which indicates the number of individual ornaments that each musician played in the song excerpts is limited to these specific excerpts. If these musicians played the same songs again, the results above would certainly be different.

According to the data above, Tursun used only two of the ornamentation techniques. However, she was the only one who used one of those techniques – the pull-off, with the drone string rather than the melody string. Moreover, the transcripts for Dostlirim Khäyärlärdä and Tüt Khulakh, the two songs played by Tursun, would reveal that she employed a dotted-eighth/sixteenth note rhythm in both of her songs, a rhythm not used by the other musicians. Since her use of these techniques was extremely limited, a logical question to ask would be: since Tursun only used two of the above techniques, does that indicate that her dutar playing was lacking in purakh? If so, what other factors are at work that cause her to have the reputation among Uyghurs of being a talented dutar player? Once again, more research is needed.

Mäpiz and Jamal utilized far more of these techniques than Tursun, with Jamal used many different

Table 5. Technique combinations and frequency of use with each musician

<table>
<thead>
<tr>
<th>Description of Technique</th>
<th>Possible Western equivalent</th>
<th>Tursun (2)</th>
<th>Mäpiz (2)</th>
<th>Jamal (2)</th>
<th>Heyt (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hammer-on</td>
<td>Grace note</td>
<td>43</td>
<td>16</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Release</td>
<td>Grace note</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Pull-off</td>
<td>Grace note</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hammer-on/release</td>
<td>Upper mordent</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Release/hammer-on</td>
<td>Lower mordent</td>
<td>1</td>
<td>4</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Release/hammer-on/release</td>
<td>?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hammer-on/release/hammer-on</td>
<td>?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hammer-on/release X 2 or more</td>
<td>Trill</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Release/release/hammer-on/hammer-on</td>
<td>Turn</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Double hammer-on</td>
<td>Double grace note</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Slide up</td>
<td>Glissando</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slide down</td>
<td>Glissando</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
possible combinations of these two techniques as well as a downward slide moving immediately into an upward slide.

Examining these techniques from a different perspective, Illus. 26 below indicates the type of interval used by each musician in playing the two basic techniques of the hammer-on (ascending interval)

<table>
<thead>
<tr>
<th>Interval</th>
<th>Heyt</th>
<th>Jamal</th>
<th>Mäpiz</th>
<th>Tursun</th>
</tr>
</thead>
<tbody>
<tr>
<td>u</td>
<td>F#4-F4 – 1</td>
<td>Bb4-Bb4 – 2</td>
<td></td>
<td>F#4-F4 – 1</td>
</tr>
<tr>
<td></td>
<td>B4-Bb4 – 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d1d</td>
<td>G4-F4 – 1</td>
<td>D5-Eb5 – 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A4-Bb4 – 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D5-Eb5 – 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m2a</td>
<td>E4-F4 – 4</td>
<td>D5-Eb5 – 5</td>
<td>E4-F4 – 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F#4-G4 – 3</td>
<td></td>
<td>A4-Bb4 – 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A4-Bb4 – 14</td>
<td></td>
<td>D5-Eb5 – 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D5-C5 – 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M2d</td>
<td>E4-D4 – 1</td>
<td>D5-C5 – 6</td>
<td>E4-D4 – 1</td>
<td>A3-G3 – 3</td>
</tr>
<tr>
<td></td>
<td>A4-G4 – 4</td>
<td></td>
<td>F4-Eb4 – 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C5-Bb4 – 2</td>
<td></td>
<td>C5-Bb4 – 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D5-C5 – 1</td>
<td></td>
<td>G5-F5 – 1</td>
<td></td>
</tr>
<tr>
<td>M2a</td>
<td>F4-G4 – 2</td>
<td>G4-A4 – 1</td>
<td>D4-E4 – 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G4-A4 – 17</td>
<td>Bb4-C5 – 3</td>
<td>Eb4-F4 – 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bb4-C5 – 13</td>
<td>C5-D5 – 4</td>
<td>F4-G4 – 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eb5-F5 – 2</td>
<td>Eb5-F5 – 1</td>
<td>G4-A4 – 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bb4-C5 – 12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C5-D5 – 17</td>
<td></td>
</tr>
<tr>
<td>m3a</td>
<td>A4-C5 – 2</td>
<td>A4-C5 – 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C5-Eb5 – 1</td>
<td>D5-F5 – 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M3a</td>
<td>Eb5-G5 – 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(string slide)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4d</td>
<td>G4-D4 – 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(to open string)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P5a</td>
<td>D4-A4 – 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(from open string)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8d</td>
<td>D5-D4 – 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(to open string)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Comparison of intervals used by musicians to add ornamentation techniques
and the release (descending interval). Table 6 contains two unusual techniques, the first of which is the unison hammer played by Jamal. Even though this technique is a form of the hammer-on, it does not produce an ascending interval but rather a unison interval, as its name indicates. The unison hammer is executed by the musician quickly performing two hammer-ons in fast succession, raising a finger and putting it back down quickly on the same fret. Strictly speaking, it is in the same category as a hammer-on followed by a release followed by another hammer-on. But when the unison hammer-on is performed correctly, the listener is unable to distinguish the very quick release that is performed between the two hammer-ons.

The second atypical technique is not actually a hammer-on or a release; it is referred to as a string slide. As indicated in Table 6 below, both Jamal and Heyt used this technique. It is performed by the musician sliding his finger on the string along the neck from one fret to another, either to a lower or a higher pitch position, thus changing the tone produced by the dutar string. Even though this technique is not a hammer-on or a release, it is performed with no accompanied strumming, thus being included with the other techniques that produce purakh.

The intervals in Table 6 labeled “d1d” and “A1a” require some explanation. “d1d” stands for “diminished unison descending.” For example, an F#4 moving to an F4 uses the same letter name (F4). Therefore they both use the number label “1.” The descending form of this type of interval is referred to as a d1d which stands for diminished unison descending. Likewise, a similar explanation will demonstrate that “A1a” stands for augmented unison ascending.

According to the data in Table 6, the vast majority of techniques were used with some type of interval of a second or smaller, either major or minor, ascending or descending. Of the seven techniques that used an interval larger than a second, three of the seven techniques either began with or ended on an open string, which is a relatively simple technique to play on a stringed instrument. It is not surprising that the majority of the techniques listed in Table 6 used intervals of a second or smaller, considering the speed at which these techniques need to be performed. The physical restrictions of the size of a
musician’s hand limit the size of interval that can be reached when playing these techniques, particularly at the fast tempos used by these musicians.

Figure 21 below is the first page of the transcript from the song *Otluh Nidalar* by Mäpiz. It contains many excellent examples of *purakh* created by hammer-ons and releases. Besides the various combinations of hammer-ons and releases portrayed in this transcript, Mäpiz has also included several string slides: the first one on a strum between bars 5 and 6; another in bar 10 with no accompanied strum and again in bar 23; and two successive string slides in bar 24 with strumming. This transcript also contains clear examples of three different types of rhythm commonly used with hammer-ons. The first type is located in bar 5, an even rhythm indicated by the four sixteenth notes with hammer-ons performed on the second and fourth sixteenth notes. Another type of rhythm frequently used with hammer-ons is located in bar 11 and following. The rhythm for this type of hammer-on is a dotted sixteenth and thirty-second combination, slightly delaying the execution of the hammer-ons in contrast to the even rhythm in bar 5. The final type of rhythm is located at the end of bar 27, using the reverse of the rhythm found in bar 11 with the reverse effect, of playing the first note very quickly and immediately performing the hammer-on, allowing the second tone of the technique to sound for a longer period. These three basic rhythm types can be applied to any combination of hammer-ons and releases, thus introducing variation.

Comparing the techniques performed by Heyt with the techniques performed by Jamal and Mäpiz, the data does not reveal any distinguishing characteristics. Many of the intervals are the same, as are the notes used with those intervals. While Heyt used many combinations of the hammer-on and the release, it was not his use of these two techniques that was any more remarkable than the way the other musicians played them. Rather, it was the extensive use that he made of the lower string, commonly referred to as the drone string, with his left hand. In some of the excerpts from Heyt’s songs, it played a much larger role than just a drone sounding out the same note.
Figure 21. Page 1 of transcript of *Otlukh Nidalar* by Ärkin Mäpiz
The Importance of the Drone String

Most of this chapter has dealt with the analysis of the song excerpts as well as the data generated by that analysis. In fact, it has dealt with the analysis of only half of the song excerpts – the half corresponding to the notes played on the upper dutar string, the string that is used by a dutar player to play the melody. While the process up to this point has been extremely educational and useful in understanding Uyghur music at a deeper level, it has not answered the research question – What is it about Abdurehim Heyt’s dutar playing technique that is distinctive among all other Uyghur dutar players? The analysis of the upper string has provided insight regarding the production of purakh, or Uyghur flavor, making known the mechanics of how to reproduce this on a dutar. It has also enabled a comparison of the dutar playing technique of four Uyghur dutar players through the analysis of an admittedly small sampling. But it has not achieved the intended goal of answering the research question.

The analysis was not limited, though, to the upper string. It was also applied to the drone string, and while this analysis was not as broad as the analysis of the melody string, the results are significant.

As the song excerpts were transcribed one by one, obvious similarities began to emerge – the repetition of tones, the application of purakh, the tremendous speed at which most songs were played! However, it was not until after the tonal succession charts for the drone strings of all of the song excerpts were produced and then compared side by side that a surprising set of data began to emerge – the tonal inventory of the drone string. Up until that point in the analysis process the focus had been on the tones used by the melody string because of the assumption that the distinctive character of Heyt’s dutar technique would be revealed there, since purakh was applied to dutar music through the addition of extra notes onto the melody. However, after analyzing all of the songs, the data appears to show that the purakh used by Heyt was no different than that used by Mäpiz or Jamal. In fact, according to the data, Jamal actually played with more purakh than Heyt! Therefore, based on the available data, the inescapable conclusion was that the distinctive quality of Heyt’s dutar playing was not going to be determined in the way he played the melody string. By the process of elimination that left only the drone string.
There is good reason why the lower pitched string on the dutar is called the drone string. A Uyghur musician normally plays far more repetition in the drone string than in the higher pitched string. And there is good reason for this, as well. Since the higher pitched string is used to play the melody, there is a lot of fast back-and-forth action with the left hand – indeed frequently the whole left arm! – going up and down the neck to finger various notes. With the strings tuned a perfect fifth apart, this rapid hand/arm action limits the number of notes that you can play effectively with the drone string.

The use of a drone string is not unique to the dutar or Uyghur music. Many other instruments also use drone strings. Regarding use of drone strings on the buzuaq, a long-necked lute found in the Middle East and distantly related to the dutar, Nettl and Riddle state, “The drone appears most frequently on the tonic or the fifth of the scale…” (Nettl & Riddle 1973, 26) Similarly, the most common tones played on the drone string of the Uyghur dutar are the tonic and fifth, and frequently the second, but not of the “scale.” The tone most commonly played in the drone string by Uyghur dutar players is the open string, which is usually tuned to G3. The next most commonly used tone is D4 at the seventh fret. Another relatively common tone that is played in the drone string is at the second fret, A3. Thus, if the open drone string is thought of as the tonic (of the drone string, not of the key used by the melody string), the tones used by the drone string would be the tonic, the second and the fifth. Unless you are Abdurehim Heyt.

After the Tonal Succession Charts for the drone string for all the song excerpts were produced, the stark difference between the way Heyt played the drone string as compared with the way the other three musicians played it was abundantly evident in the data. Table 7 below is a chart of the tonal inventories of both strings for all of the song excerpts. The data in this chart reflects the common practice of Uyghur dutar players to play the tonic, the second and the fifth tones of the drone string. The chart also shows that the number of tones in the tonal inventories for the melody string in Heyt’s song excerpts is noticeably more than the number of tones used by the other musicians. However, the difference in the number of tones used in the drone string between Heyt and the other musicians is even more noticeable. Except for one song excerpt that used four tones, all songs played by the other three musicians used three
Table 7. Tonal Inventory Compilation

<table>
<thead>
<tr>
<th>Musician’s Initials/ Song Title</th>
<th>Tonal Inventory – melody string (D4)</th>
<th>Tonal Inventory – drone string (G3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH/Nazugum</td>
<td>D4, E4, F4, G4, A4, Bb4, C5, D5, Eb5</td>
<td>G3, A3, Bb3, C4, Db4, D4, Eb4</td>
</tr>
<tr>
<td>AH/Achil</td>
<td>D4, E4, F4, G4, A4, Bb4, C5</td>
<td>G3, A3, Bb3, C4, D4</td>
</tr>
<tr>
<td>AH/Aynäk</td>
<td>D4, E4, F4, G4, A4, Bb4, C5, D5, Eb5, E5, F5</td>
<td>G3, A3, Bb3, C4, D4</td>
</tr>
<tr>
<td>AH/Rastchilikhing</td>
<td>D4, Eb4, F4, F#/4, G4, A4, Bb4, C5, D5, Eb5, F5, G5</td>
<td>G3, B3, C4, D4, Eb4</td>
</tr>
<tr>
<td>AH/Anargüli</td>
<td>C4, D4, E4, F4, G4, A4, Bb4, C5</td>
<td>G3, Ab3, B3, C4, D4</td>
</tr>
<tr>
<td>AH/Dostung Amäs</td>
<td>D4, E4, F4, G4, A4, Bb4, C5, D5, E5, F5, G5</td>
<td>G3, Ab3, C4, D4, Eb4</td>
</tr>
<tr>
<td>AH/Khizlar</td>
<td>C4, D4, Eb4, F4, F#/4, G4, A4, Bb4, C5, D5, Eb5</td>
<td>G3, Bb3, B4, C4, D4</td>
</tr>
<tr>
<td>AH/Vätän Khädri</td>
<td>D4, Eb4, F4, F#/4, G4, A4, Bb4, C5, D5, Eb5, F5, G5, A5</td>
<td>G3, A3, B3, C4, D4, Eb4, F4, G4, Ab4, Bb4, C5</td>
</tr>
<tr>
<td>AJ/Oynang Yarlirim</td>
<td>D4, G4, A4, B4, C5</td>
<td>G3, D4, E4</td>
</tr>
<tr>
<td>AJ/Ashtajan</td>
<td>D4, G4, A4, Bb4, C5, D5, Eb5</td>
<td>G3, A3, D4</td>
</tr>
<tr>
<td>AM/Livän Yala</td>
<td>D4, E4, F4, F#/4, G4, A4, Bb4, B4, C5</td>
<td>G3, A3, D4</td>
</tr>
<tr>
<td>AM/Otlukh Nidalar</td>
<td>D4, Eb4, E4, F4, G4, A4, Bb4, C5, D5, Eb5, E5, F5, G5, A5</td>
<td>G3, A3, D4</td>
</tr>
<tr>
<td>ST/Dostlimir Khäyärlärdä</td>
<td>D4, E4, F#/4, G4, A4, B4, D5, E5, G5</td>
<td>G3, A3, B3, D4</td>
</tr>
<tr>
<td>ST/Tüt Khulakh</td>
<td>D4, E4, F#/4, G4, A4, B4, C5, D5</td>
<td>G3, A3, B3</td>
</tr>
</tbody>
</table>

tones in the drone string. The least amount of tones that Heyt used in the tonal inventory of the drone string for some of his songs was five, and he used eleven tones in *Vätän Khädri*!

Another difference shown in the data below is the actual tones tones that are used, not just the quantity of tones used. The tones that Jamal, Mäpiz and Tursun used in the drone string have their counterparts in the tonal inventory of the melody string. The one exception is the E4 used in Jamal’s *Oynang Yarlirim*. However, while the E is not used in the melody string, it is part of the tonal inventory for the key of G major, which is what *Oynang Yarlirim* is tuned to. In three of Heyt’s songs, however (*Nzugum, Anargüli, and Vätän Khädri*), he used tones in the drone string that are not part of the tonal inventory for the melody string or even the key that the songs are tuned to. This is yet another example of the extraordinary way in which Heyt uses the drone string unlike any other Uyghur dutar player.
Figure 22 below, which is the first page of the transcription of *Vātān Khādri*, is not only an excellent example of Heyt’s use of the drone string, but it is also an example of other aspects of his dutar playing as well. The transcription below indicates several different techniques used that are related to purakh. However, the quantity of these types of techniques used is low in comparison with the amount of purakh used in the transcription of *Otlukh Nidalar* in Figure 19 above. This study has already established the fact that it is not the amount of purakh that makes Heyt’s dutar playing unique, so the low quantity of purakh used in the transcription below is not surprising.

Of particular interest is Heyt’s use of sixteenth notes. While other Uyghur musicians also make use of sixteenth notes, it is usually in a limited manner similar to how Heyt used them in bars 1 and 6. However, Heyt’s extensive and sustained use of sixteenth notes is notable, not only because of the skill that is required to keep up a steady rhythm in the right hand for that long and that fast (the tempo for *Vātān Khādri* is 175 bpm), but especially because they are played in conjunction with movement of the left hand playing both the melody string and the drone string.

Regarding Heyt’s use of the drone string, beginning at bar 10, the parallel movement of the drone string in relation to the melody string adds character and interest to what would otherwise be a rather uninteresting step-wise melody line. Heyt’s extensive use of the drone string frees it from its usual fate of performing endless repetitions of the same few notes. Instead he uses it to breathe a new and different quality into the polyphonic sounds of the dutar by using this unique playing technique. This is indeed by far the most striking difference between Heyt and the other dutar players that was revealed through the analysis process. Therefore, considering all of the available data, the unavoidable conclusion is that the single most important factor that makes Heyt’s dutar playing distinctive enough to give him the appellation of Dutar King is his extensive use of the drone string.
Figure 22. Page 1 of transcript of Heyt’s Vätän Khädri
Chapter V: Summary, Conclusions and Recommendations

Summary

This study has explained how Pike’s emic-etic concept of language analysis can be applied to the analysis of non-Western music, and specifically how it can be applied to the analysis of Uyghur dutar music. The difference between how Uyghur musicians and Western musicians view ornamentation was highlighted, paying particular attention to the amount of importance that Western musicians attach to small details of ornamentation, both the ornaments themselves and their use. In contrast, Uyghur musicians view all the various aspects of ornamentation as a whole concept they call purakh, not as individual ornaments that are clearly defined and their uses prescribed. Adapting tools and methodology from Chenoweth and Avery and employing several computer programs, this study has described the analysis process applied to instrumental excerpts from fourteen Uyghur folk songs (eight from Heyt and two each from Jamal, Mäpiz and Tursun). Analysis tools from the Analytic Inventory Sheet was applied to the song excerpts. These tools generated data in several areas: identification of key used; identification of tones in the tonal inventory not normally part of the key and thus labeled as accidentals; a complete list of all interval successions used, including a list of most frequently used interval successions and a list of interval successions never used; identification of conjunct and disjunct motion; a summary description of the form of each song excerpt; a description of the melodic contour of each song excerpt; a description of the most common strum patterns used in each song excerpt; and a brief description of the meter and tempo employed by each song excerpt. In addition, this paper examined the practical aspects of the Uyghur concept of purakh and how it was applied to the songs by the musicians, particularly focusing on the individual techniques that were used and the melodic intervals that the musicians used to add these techniques to the songs.

Throughout the analysis process described above, Heyt’s dutar playing technique was compared with Jamal, Mäpiz and Tursun’s techniques as it related to the various aspects analyzed. In fact, the data
revealed that their techniques are similar in almost every area. There are varying degrees of difference in strumming patterns, depending on the musician, but the only area where the data clearly shows Heyt’s technique as markedly different from all three of the other musicians is in the tonal inventory of his song excerpts. The data unmistakably shows that Heyt consistently uses a larger number of tones in the tonal inventory of his songs. This is especially true of the tonal inventory for the drone string.

Conclusions

The goal of this study was to discover what was distinctive about Heyt’s dutar playing, why he seemed to stand out from all other Uyghur dutar players. This study began by examining ornamentation, expecting to find the answer in the manner in which Heyt ornaments his songs. However, the data generated by this study did not bear that out. Rather, in light of the data analysis, this study’s main conclusion is that the unique characteristic of Heyt’s dutar playing technique is in his extensive use of many different tones in the drone string compared with the other musicians’ use of only three or four different tones. This is the single most important factor that sets him apart from other Uyghur dutar players and makes his playing technique distinctive.

Another tentative conclusion reached as a result of the data analysis is that since Heyt’s extensive use of many tones on the drone string is unique to his dutar technique and not shared by the other musicians, but the other musicians – particularly Jamal and Mäpiz – make fairly extensive use of hammer-ons and releases, which constitute the core of purakh, Heyt’s unique use of the drone string is not an essential part of the Uyghur concept of purakh, but rather an expression of his personal playing style. Once again, it is important to note that, due to the limitations of this study, these conclusions should be considered tentative until such time as they can be checked by a knowledgeable Uyghur musician.

Recommendations

As previously stated, I lived among the Uyghur people in Kashgar, China for four years. During that time I came to appreciate Uyghur music and developed a deep desire to understand it better.
Therefore, from my perspective this study is more than just a theoretical look at Uyghur dutar playing technique. It is an expression of my appreciation for Uyghur culture and music, and a tool to help me understand it better. Tenzer was right when he stated, “When people cross borders to analyze others’ music, it is usually motivated by respect and desire to understand” (Tenzer 2006, 10).

Even before returning to the U.S. in 2008, one of my goals was to be able to create songs that contained purakh, authentic Uyghur flavor. I knew that would entail more than studying Uyghur culture and music for four years. Since I did not grow up in Uyghur culture, developing the ability to create music with authentic Uyghur purakh would need to include a thorough study of the music that I desire to emulate. This paper is a natural extension of that desire. In Chenoweth's words, my goal was “to understand a foreign music system by means of an analysis method which would enable understanding so complete that one could compose idiomatically within that system” (Chenoweth 2001, 4). While I may not have yet arrived, through this study I have certainly gained a better understanding of Uyghur music in general and dutar playing in particular.

The process of this study has highlighted the need for two specific areas to be addressed. First, the need to gather more data to see if these conclusions would be confirmed with a larger sampling. While the data shows conclusive results, especially in the area of Heyt’s drone string playing technique as compared with the other musicians, the overall results could be more robust and more definitive with a larger sampling of complete songs, not just song excerpts. It would be of particular interest to discover if other Uyghur folk songs played by these four musicians – as well as songs from other Uyghur dutar players – would follow the same pattern with regards to the interval successions that are never used. If so, this would be an important key in knowing which intervals should not be used when writing Uyghur songs.

Second, the need to have Uyghur musicians check this study’s data and conclusions. I am very much aware of the lack in this area because I did not have the opportunity to be in communication with Uyghur musicians throughout this process. While conclusions can be drawn based on the data generated, it is not a “finished product” until the conclusions are checked by Uyghur musicians. As Chenoweth
clearly states, “Conclusions…are not final until checked with the local music-makers” (Chenoweth 1996, 593). The concept of purakh is an area of particular value to study in more depth with Uyghur musicians. Further research in this area would be very beneficial toward a deeper understanding of what it means for a song to have authentic Uyghur flavor.

Another area to explore is the relationship between the music and the lyrics. How do Uyghur musicians create new folk songs? Do they use an established tune and create new lyrics to fit the music? I suspect that one factor that contributes to Heyt’s continued popularity is the content of his lyrics, relating to the common people in their everyday struggles of life.

On a more academic level, since no other research in English has been done on Uyghur folk songs in the area of music analysis or instrument technique, a better understanding of these areas as they apply to Uyghur folk songs would certainly add depth to the body of research that has already been done on Uyghur Muqam, thus giving a wider view of the richness of Uyghur music culture.
APPENDIX ONE
Diacritic Marks

Diacritics for Left Hand (melody)

1. \( \downarrow \) hammer – press finger down on string to produce a new tone (F) without strumming accompaniment

2. \( \uparrow \) release: lift finger up from (A) to allow the string to produce (G) without strumming accompaniment

3. \( \downarrow \) hammer on (D) then immediately slide on string up to (Eb)

4. \( \uparrow \) pull-off, played in drone string. Begin with finger on (A) of drone string, then pull string slightly sideways toward the edge of the neck as you release string to open position (G)

5. \( \) strum on note, then slide finger down neck to an undetermined point

6. \( \) strum on each note, glissando with finger on neck down to lower note then up to higher note

7. long slow glissando up to next note by sliding finger up neck

Diacritics for Right Hand (strumming)

1. \( \) full-hand downstroke

2. \( \) thumb-only downstroke

3. \( \) fingers-only downstroke

4. \( \) gradual full-hand downstroke, fingers striking the strings individually

5. \( \) full-hand upstroke

6. \( \) thumb-only upstroke

7. \( \) fingers-only upstroke
APPENDIX TWO

Analytic Inventory Sheet (template)
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher:
People Group:
Performer(s):
Instrument(s):
Song Name:
Song Category:

1. Transcription
   A. Version A with ornamentation
   B. Version B without ornamentation
   C. Accidentals

2. Form
   A. Phrases (e.g. AB₁B₂ACⁿ…; B₁ and B₂ are variants of B; Cⁿ is derived from A)
   B. Sub-phrases (e.g. A=abb B₁=cdee B₂=cdee Cⁿ=ebb…)

3. Tonal Succession Chart: Dark shading=reiteration; Light shading=conjunct motion; No shading=disjunct motion
   A. Tonal center (key?)
   B. Tonal inventory
   C. Tone frequency (iterations)
   D. Relative frequency of conjunct vs. disjunct motion
   E. Tone distribution
   F. Tone flexibility
   G. Repeated pitches (reiterations)
   H. Tone duration (data from transcription, not tonal succession chart; placed here to see interaction with other data)

4. Interval Succession Chart
   A. Intervals most frequently used
   B. Intervals never used

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase)
   B. Meter and Tempo

6. Strum patterns

7. Melody
   A. Ornamentation
   B. Motifs, themes
   C. Melodic contour

8. Dynamics

9. Checking
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Nazugum
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: Eb5

2. Form
   A. Phrases: ABA

   B. Sub-phrases: A=aa, a1a2a3a4bc; B=dd, d1d2d3; A4=a1a2

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of D minor
   B. Tonal inventory: D4, E4, F4, G4, A4, Bb4, C5, D5, Eb5
   C. Tone frequency (iterations): 218 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 61 conjunct; 22 disjunct
   E. Tone flexibility: D4=10; E4=8; F4=8; G4=8; A4=12; Bb4=7; C5=7; D5=6; Eb5=2
   F. Repeated tones (reiterations): D4=24; E4=11; F4=13; G4=15; A4=30; Bb4=21; C5=9; D5=9
   G. Tone duration
      a. Unit: eighth note
      b. D4=44; E4=26; F4=29; G4=29; A4=44; Bb4=22.5; C5=9; D5=7.5; Eb5=1

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=113; m2d-M2d=7; u-M2d=6; m2a-M2a=6; M2a-m2a=6; u-m2d=4; M2d-u=4; M2d-M2d=4
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      Aa =
         Aa1 =
            Aa2 =
               Aa3 =
B. Meter and Tempo – 4/4 time, 167 bpm

6. Strum patterns: 6, 1-5-6, 1-5, 3-6

7. Melody
   A. Ornamentation: hammer-on; tremolo; upward glissando
   
   B. Motifs, themes: 

   C. Melodic contour: undulating

8. Dynamics: moderate until bar 16, then loud until soft at bar 25 to end

9. Checking: none yet

---

1 Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery's Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Achil
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: none

2. Form
   A. Phrases: AA₁
   B. Sub-phrases: A=ab; A₁=a₁b₁

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of D minor
   B. Tonal inventory: D₄, E₄, F₄, G₄, A₄, Bb₄, C₅
   C. Tone frequency (iterations): 82 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 41 conjunct; 13 disjunct
   E. Tone flexibility: D₄=5; E₄=4; F₄=7; G₄=9; A₄=7; Bb₄=6; C₅=3
   F. Repeated tones (reiterations): D₄=12; F₄=1; G₄=6; A₄=6; Bb₄=2
   G. Tone duration¹
      a. Unit: eighth note
      b. D₄=14.5; E₄=5; F₄=8.5; G₄=16.5; A₄=15; Bb₄=4; C₅=1.5

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=17; M₂a-M₂d=6; M₂d-u=5; M₂d-M₂a=5; u-M₂d=4;
      m₂a-M₂a=4; M₂d-m₂d=5; M₂a-m₂a=4; u-M₂a=3; M₂a-M₂a=4
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see
      combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      \[ \text{Aa} = \cdots \text{Ab} = \cdots \text{A}_1a_1 = \cdots \text{A}_1b_1 = \cdots \]
B. Meter and Tempo: 2/4 time, 152 bpm

6. Strum patterns: 1-3, 3-3, 6-1, 6-3

7. Melody
   A. Ornamentation: hammer-on

   B. Motifs, themes: \[\text{\includegraphics{motifs.png}}\]
   C. Melodic contour: undulating

8. Dynamics: moderate throughout

9. Checking: none yet

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1 Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Äynäk
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: Eb5

2. Form
   A. Phrases: ABB₁B₂A₁
      B. Sub-phrases: A=aa₁; B₁=b₁b₂; B₂=b₁b₂; A₁=a₂

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of D minor
   B. Tonal inventory: D4, E4, F4, G4, A4, Bb4, C5, D5, Eb5, E5, F5
   C. Tone frequency (iterations): 87 total iterations
   D. Relative frequency of conjunct vs. disjunct motion – 43 conjunct; 26 disjunct
   E. Tone flexibility: D₄=9; E₄=5; F₄=6; G₄=9; A₄=9; Bb₄=5; C₅=5; D₅=9; Eb₅=2; E₅=4; F₅=2
   F. Repeated tones (reiterations): D₄=4; G₄=2; A₄=8; C₅=2; D₅=1
   G. Tone duration¹
      a. Unit: eighth note
      b. D₄=22; E₄=10; F₄=12; G₄=18; A₄=34; Bb₄=9; C₅=6; D₅=8; Eb₅=4; E₅=2; F₅=2

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=8; m2d-M2d=8; m2a-m2d=5; M2d-m2d=5;
      M₂a-M₂a=4; u-M₂a=3; M₂d-M₂₂=3
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see
      combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      \[ Aa = \begin{array}{cccccccc}
      \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\
      \end{array} \]
      \[ Aa₁ = \begin{array}{cccccccc}
      \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\
      \end{array} \]
      \[ Bb = \begin{array}{cccccccc}
      \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\
      \end{array} \]
      \[ Bc = \begin{array}{cccccccc}
      \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot & \cdot \\
      \end{array} \]
B₁,b₁=

B₁,b₂=

B₂,b₃=

Aₐ₂=

B. Meter and Tempo: 4/4 time, 158 bpm

6. Strum patterns: 1-3-2-1, 3-3-2, 7-3-2-1

7. Melody
   A. Ornamentation: hammer-on; release; release/hammer-on; downward glissando
   B. Motifs, themes: ;
   C. Melodic contour: waves

8. Dynamics: moderate throughout, except softer near the end

9. Checking: none yet

1 Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Rastchilikhing
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidental: F#4

2. Form
   A. Phrases: AA, A3, B4, C5, D6
   B. Sub-phrases: A=aa, ba; A2=aa3, b3a4; B=ca, c1da; B1=b3a8, c2b3; C=ee1, e2b4; D=ff1, f2; E=e

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G minor. Just as in Khizlar, the G4, Bb4 and D5 are the strongest tones.
   B. Tonal inventory: D4, Eb4, F4, F#4, G4, A4, Bb4, C5, D5, Eb5, F5, G5
   C. Tone frequency (iterations): 262 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 91 conjunct; 57 disjunct
   E. Tone flexibility: D4=15; Eb4=2; F4=2; F#4=6; G4=9; A4=8; Bb4=9; C5=7; D5=9; Eb5=4; F5=2; G5=2
   F. Repeated tones (reiterations) – D4=20; F#4=3; G4=36; A4=8; Bb4=23; C5=6; D5=7; Eb5=4
   G. Tone duration
      a. Unit: eighth note
      b. D4=45; Eb4=1; F4=1; F#4=8; G4=52; A4=30; Bb4=36; C5=30; D5=20; Eb5=7; F5=1; G5=1

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=56; m2a-M2a=10; M2d-M2d=8; u-M2d=7; M2a-M2a=6; u-P4d=5; M2d-u=5; P4a-u=5; m6a-u=5; u-m2d=4; u-P5a=4; m2d-M2d=4; m2d-P5d=4; M2d-M2d=4; M2a-M2a=4; M2a-8d=4; P5d-u=4
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase or sub-phrase):
      \[
      \begin{align*}
      Aa &= \text{\textbullet\textbullet\textbullet\textbullet\textbullet} \\
      Aa_1 &= \text{\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet} \\
      Ab &= \text{\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet}\n      \end{align*}
      \]
\[
\begin{align*}
A_{a_3} &= \ldots
\end{align*}
\]
\[
\begin{align*}
A_{a_4} &= \ldots
\end{align*}
\]
\[
\begin{align*}
A_{a_5} &= \ldots
\end{align*}
\]
\[
\begin{align*}
A_{a_6} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{c} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{c_1} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{d} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{d_1} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{b_1} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{a_8} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{c_2} &= \ldots
\end{align*}
\]
\[
\begin{align*}
B_{b_3} &= \ldots
\end{align*}
\]
\[
\begin{align*}
C_{e} &= \ldots
\end{align*}
\]
\[
\begin{align*}
C_{e_1} &= \ldots
\end{align*}
\]
\[
\begin{align*}
C_{e_2} &= \ldots
\end{align*}
\]
\[
\begin{align*}
C_{b_4} &= \ldots
\end{align*}
\]
\[
\begin{align*}
D_{f} &= \ldots
\end{align*}
\]
\[
\begin{align*}
D_{f_1} &= \ldots
\end{align*}
\]
\[
\begin{align*}
D_{f_2} &= \ldots
\end{align*}
\]
E=\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}

B. Meter and Tempo: 4/4 time, 210 bpm

6. Strum patterns: 3-3-3-3, 3-3-3-6

7. Melody
   A. Ornamentation: hammer-on; hammer-on/release
   B. Motifs, themes: \text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}; \text{\ding{56}}\text{\ding{56}}\text{\ding{56}}\text{\ding{56}}
   C. Melodic contour: waves

8. Dynamics: moderate throughout

9. Checking: none yet

1 Data for pitch duration gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Anargúli
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: F#4

2. Form
   A. Phrases: ABB\textsubscript{1}A\textsubscript{1}
   B. Sub-phrases: A=aaa,b,a,c,d; B=efgh; B\textsubscript{1}=e,f,g,h; A\textsubscript{1}=b,b\textsubscript{2}

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G minor; the data shows D4 and D5 are very strong notes
   B. Tonal inventory: C\textsubscript{4}, D\textsubscript{4}, E\textsubscript{4}, F\textsubscript{4}, G\textsubscript{4}, A\textsubscript{4}, Bb\textsubscript{4}, C\textsubscript{5}
   C. Tone frequency (iterations): 207 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 87 conjunct; 35 disjunct
   E. Tone flexibility: D4=5; E4=4; F4=7; G4=9; A4=7; Bb4=6; C5=3
   F. Repeated tones (reiterations): D4=27; Eb4=4; G4=3; A4=4; Bb4=7; C5=9; D5=28; Eb5=2
   G. Tone duration\textsuperscript{1}
      a. Unit: eighth note
      b. C4=2; D4=39; Eb4=18; F\#4=14.5; G4=20.5; A4=14; Bb4=14.5; C5=22.5; D5=37.5;
         Eb5=9.5

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=60; M2d-M2d=11; m2d-M2d=10; u-m2a=5; u-M2a=5;
      m2d-m3d=5; m2a-u=5; m2a-M2a=5; M2a-u=5; u-m6a=4; m2d-u=4; m2a-m3d=4; M2d-u=4;
      M2d-M2d=4; M2a-M2d=4; m3d-m2a=4
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see
      combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      \[ \text{Aa} = \text{eterangan} \]
      \[ \text{Aa} = \text{eterangan} \]
      \[ \text{Aa} = \text{eterangan} \]
Ab=

Aa\textsubscript{2}=

Aa\textsubscript{3}=

Ac\textsuperscript{#}=

Ad=

Be=

Bf=

Bg=

Bh=

B\textsubscript{1}c\textsubscript{1}=

B\textsubscript{1}f\textsubscript{1}=

A\textsubscript{1}b\textsubscript{1}=

A\textsubscript{1}b\textsubscript{2}=

B. Meter and Tempo: 4/4 time, 157 bpm

6. Strum patterns: 3-3-3-6, 3-3-3-3, 6-3-3-3

7. Melody
   A. Ornamentation: hammer-on; release; release/hammer-on; hammer-on/release; upward glissando; downward glissando to indefinite tone
   B. Motifs, themes: \hfill
   C. Melodic contour: falling

8. Dynamics: moderate throughout

9. Checking: none yet

1 Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Dostung Ämäs
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: none

2. Form
   A. Phrases: ABA_C
   B. Sub-phrases: A=abab_1; B=ca_1c_1; A_1=a_2b_2a_3b_3a_4b_4; C=dea_5b_5e_1f

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of D minor
   B. Tonal inventory: D4, E4, F4, G4, A4, Bb4, B4, C5, D5, E5, F5, G5
   C. Tone frequency (iterations): 204 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 66 conjunct; 28 disjunct
   E. Tone flexibility: D4=9; E4=; F4=5; G4=9; A4=7; Bb4=7; B4=2; C5=7; D5=7; E5=5; F5=4; G5=2
   F. Repeated tones (reiterations): D4=16; E4=12; F4=9; G4=9; A4=13; Bb4=16; C5=14; D5=14; E5=6
   G. Tone duration
      a. Unit: eighth note
      b. D4=20; E4=16; F4=14.5; G4=27; A4=22; Bb4=19.5; B4=1; C5=18; D5=13; E5=6; F5=4; G5=2

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=75; M2d-m2d=13; u-M2d=12; u-M2a=8; m2d-u=8; m2a-M2a=8; M2a-u=8; m2d-u=5; M2a-M2d=8; M2a-m2a=6; m2d-M2d=5; M2d-u=5; M2d-M2d=4; M2d-M2a=4
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      Aa =
      Ab =
      Aa_1 =
      Ab_1 =
B. Meter and Tempo – 4/4 time, 198 bpm

6. Strum patterns: 3-3-3-6, 3-3-3-3, 6-3-3-3

7. Melody
   A. Ornamentation: hammer-on; release/hammer-on; downward glissando; upward glissando; trill
   B. Motifs, themes: 
   C. Melodic contour: waves

8. Dynamics: moderately loud throughout

9. Checking: none yet

1. Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Khizlar
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: F#4

2. Form
   A. Phrases: AA₁A₂A₃BA₄
   B. Sub-phrases: A=aaa,b; A₁=a₁a₂a₃b₁; A₂=a₁a₂a₃b₂; A₃=a₄a₃b₁b₂; B=cc₁a₆d; A₄=a₄b₁ef₃

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G minor
   B. Tonal inventory: C₄, D₄, Eb₄, F₄, F#₄, G₄, A₄, Bb₄, C₅, D₅, Eb₅
   C. Tone frequency (iterations): 178 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 50 conjunct; 37 disjunct
   E. Tone flexibility: C₄=2; D₄=8; Eb₄=3; F₄=5; F#₄=2; G₄=11; A₄=8; Bb₄=9; C₅=8; D₅=7; Eb₅=2
   F. Repeated tones (reiterations): Eb₄=1; F₄=2; G₄=17; A₄=6; Bb₄=13; C₅=26; D₅=25
   G. Tone duration¹
      a. Unit: eighth note
      b. C₄=0.5; D₄=20; Eb₄=2; F₄=2.5; F#₄=1; G₄=26.5; A₄=20; Bb₄=32.5; C₅=23; D₅=26; Eb₅=2

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=66; m₂d-M₂d=7; M₂d-m₂d=7; u-m₂d=6; u-M₂d=6; u-8d=6; m₂d-m₂a=6; m₂a-M₂a=5; M₂d-u=5; M₂a-u=5; u-m₆a=4; M₂d-M₂d=4; M₃a-u=4; P₄a-m₃a=4; 8d-u=4
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      Aa =
      Aa =
      Aa₁=
B. Meter and Tempo: 4/4 time, 167 bpm

6. Strum patterns: 6-3-3, 3-3-3, 6X3, 1-3-3

7. Melody
   A. Ornamentation: hammer-on; upward glissando
   B. Motifs, themes: \[
   \begin{align*}
   \text{y y y y y y} \\
   \text{y r r r r} \\
   \text{y y y y y y y y y y} \\
   \end{align*}
   \]
   C. Melodic contour: extreme pendulum, slight waves

8. Dynamics: moderate throughout

9. Checking: none yet

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1 Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Abdurehim Heyt
Instrument(s): Uyghur dutar
Song Name: Vätän Khädri
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: F#4

2. Form
   A. Phrases: ABCDE
   B. Sub-phrases: A=abcb,dc,e; B=ff,b_2; C=ga,a_2,h; D=g_ih,a_3,a_4; E=g_2,h_2,a_5,j

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G minor
   B. Tonal inventory: D4, Eb4, F4, F#4, G4, A4, Bb4, B4, C5, D5, Eb5, F5, G5, A5
   C. Tone frequency (iterations): 286 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 66 conjunct; 51 disjunct
   E. Tone flexibility: D4=9; Eb4=6; F4=5; F#4=2; G4=13; A4=10; Bb4=6; B4=2; C5=11; D5=14;
      Eb5=9; F5=7; G5=8; A5=3
   F. Repeated tones (reiterations) – D4=20; Eb4=4; F4=8; G4=4; A4=8; C5=10; D5=28; Eb5=38;
      F5=23; G5=18; A5=7
   G. Tone duration
      a. Unit: eighth note
      b. D4=28; Eb4=4.5; F4=8.5; F#4=1; G4=20.5; A4=17; Bb4=8.5; B4=1; C5=20; D5=49;
         Eb5=31; F5=17; G5=18; A5=4

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=127; M2a-M2a=11; M2a-M2a=9; u-M2d=7; u-M2a=7;
      m2d-M2d=7; u-m3a=6; m2a-M2a=6; M2d-u=6; M2d-M2d=5; M2d-M2a=5; M2a-u=5
   B. Intervals never used: too many to note; for total intervals not used in all Heyt songs, see
      combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      Aa = ₁hostname=1 hostname=1 hostname=1 hostname=1
      Ab=hostname=1 hostname=1 hostname=1 hostname=1 hostname=1
      Ac=hostname=1 hostname=1 hostname=1
\( Ab_1 = \ldots \)
\( Ad = \ldots \)
\( Ac_1 = \ldots \)
\( Ac_2 = \ldots \)
\( Bf_{a1} = \ldots \)
\( Bf_{a2} = \ldots \)
\( Bf_{b1} = \ldots \)
\( Bf_{b2} = \ldots \)
\( Cg = \ldots \)
\( Ca_1 = \ldots \)
\( Ca_2 = \ldots \)
\( Ch = \ldots \)
\( Dg_1 = \ldots \)
\( Di = \ldots \)
\( Dh_1 = \ldots \)
\( Da_3 = \ldots \)
\( Da_4 = \ldots \)
\( Eg_3 = \ldots \)
\( Eh_1 = \ldots \)
\( Ea_5 = \ldots \)
\( Eg_3 = \ldots \)
B. Meter and Tempo – 6/8 time, 175 bpm

6. Strum patterns: 3X3, 1-3-3, 6X3, 1-1-1

7. Melody
   A. Ornamentation: hammer-on; hammer-on/release
   B. Motifs, themes: \[\text{\textbullet\textbullet\textbullet\textbullet\textbullet}\]; \[\text{\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet}\]; \[\text{\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet\textbullet}\]
   C. Melodic contour: waves

8. Dynamics: moderate throughout until the last couple bars when it gets a little softer

9. Checking – none yet

---

1 Data for pitch duration gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur (China)
Performer(s): Amrulla Jamal
Instrument(s): Uyghur dutar
Song Name: Oynang Yarlirim
Song Category: Uyghur folk song

1. Transcription
   A. Version with ornamentation: in appendices
   B. Version without ornamentation: in appendices
   C. Accidentals: none

2. Form
   A. Phrases: ABC
   B. Sub-phrases: A=aa₁; B=bb₁,b₂,b₃,b₄;b₅; C=c

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G major
   B. Tonal inventory: D₄, G₄, A₄, B₄, C₅
   C. Tone frequency (iterations): 62 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 24 conjunct; 6 disjunct
   E. Tone flexibility: D₄=7; G₄=6; A₄=7; B₄=6; C₅=5
   F. Repeated tones (reiterations): D₄=2, G₄=11; A₄=5; B₄=5; C₅=8
   G. Tone duration¹
      a. Unit: eighth note
      b. D₄=13.5; G₄=24.5; A₄=10; B₄=14.5; C₅=17.5

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=19; P₄ₐ-P₄₄=4; P₄ₐ-u=4; u-P₄ₐ=3; m₂d-u=3; m₂ₐ-m₂d=3
   B. Intervals never used: too many to note; for total intervals not used in all non-Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      Aₐ = [R R R R R]
      Aₐ₁ = [R R R R]
      Bₜ = [R R R R R R]
      Bₜ₁ = [R R R R R R R R]
Bb₂=
Bb₃=
Bb₄=
Bb₅=
C=

B. Meter and Tempo: 2/4 time, 192 bpm

6. Strum patterns: 3-3-1, 3-3-1-1, 3-1

7. Melody
   A. Ornamentation: hammer-on; release; release/hammer-on/release; hammer-on/release; release/hammer-on; downward glissando; upward glissando; glissando/hammer-on
   B. Motifs, themes: ...
   C. Melodic contour: waves

8. Dynamics: moderate throughout

9. Checking: none yet

1. Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Amrulla Jamal
Instrument(s): Uyghur dutar
Song Name: Ashtajan
Song Category: Uyghur folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: none

2. Form
   A. Phrases: AA,B
   B. Sub-phrases: A=abb₁a₁a₂a₃a₄b₂; A₁=a₁a₂b₁; B=cddd

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G minor
   B. Tonal inventory: D₄, G₄, A₄, Bb₄, C₅, D₅, Eb₅
   C. Tone frequency (iterations): 52 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 26 conjunct; 5 disjunct
   E. Tone flexibility: D₄=4; G₄=6; A₄=4; Bb₄=7; C₅=5; D₅=6; Eb₅=2
   F. Repeated tones (reiterations): G₄=17; C₅=1; D₅=2
   G. Tone duration
      a. Unit: eighth note
      b. D₄=6; G₄=35; A₄=8; Bb₄=11; C₅=8; D₅=10; Eb₅=2

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=15; m₂a-m₂d=4; m₂d-M₂d=3
   B. Intervals never used: too many to note; for total intervals not used in all non-Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):

      Aa = 

      Ab=

      Ab₁=

      Aa₁=

      Aa₂=
Aa₃=\texttt{\textbackslash e \textbackslash r \textbackslash r}

Aa₂=\texttt{\textbackslash e \textbackslash e}

Aa₁=\texttt{\textbackslash e \textbackslash e}

Ab₂=\texttt{\textbackslash e \textbackslash e}

A₁a₀=\texttt{\textbackslash e \textbackslash e}

A₁a₁=\texttt{\textbackslash e \textbackslash e}

A₁b₃=\texttt{\textbackslash e \textbackslash e}

Bc=\texttt{\textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e}

Bd=\texttt{\textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e}

Bd=\texttt{\textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e}

Bd=\texttt{\textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e}

B. Meter and Tempo – 2/4 time, 164 bpm

6. Strum patterns: 1-5, 3, 6, 1, 8-3

7. Melody
   A. Ornamentation: hammer-on; release; hammer-on/release/hammer-on; hammer-on/release;
      release/hammer-on; upward glissando

   B. Motifs, themes: \texttt{\textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e \textbackslash e}

   C. Melodic contour: arc, gently falling, level

8. Dynamics: moderate throughout, except softer during the first part of the level section near the end,
then getting louder at the end

9. Checking: none yet

Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data
is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Ärkin Mäpiz
Instrument(s): Uyghur dutar
Song Name: Livän Yala
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: B₄

2. Form
   A. Phrases: ABCB₁
   B. Sub-phrases: A=ab; B=c; C=de; B₁=c₁

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of C major in first 7 bars, then changes modes to D minor
   B. Tonal inventory: D₄, E₄, F₄, F♯₄, G₄, A₄, B♭₄, B₄, C₅
   C. Tone frequency (iterations): 84 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 24 conjunct; 17 disjunct¹
   E. Tone flexibility: D₄=8; E₄=6; F₄=8; F♯₄=3; G₄=8; A₄=10; B♭₄=2; B₄=7; C₅=3
   F. Repeated tones (reiterations): D₄=27, E₄=2; F₄=5; G₄=2; A₄=3; B₄=1; C₅=2
   G. Tone duration²
      a. Unit: eighth note
      b. D₄=58; E₄=10; F₄=12; F♯₄=1; G₄=7; A₄=11; B♭₄=1; B₄=6; C₅=6

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=26; m2d-M2d=5; M2d-u=5; u-M2d=4; u-m2d=3;
      u-M₂a=3; m₂a-m₂d=3; M₂a-u=3
   B. Intervals never used: too many to note; for total intervals not used in all non-Heyt songs, see
      combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      Aa = ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⋯
B. Meter and Tempo: 2/4 time, 178 bpm

6. Strum patterns: 1-5, 6, 3

7. Melody
   A. Ornamentation: hammer-on; release
   B. Motifs, themes: \( \text{\long兵马} \); \( \text{\long兵马} \)
   C. Melodic contour: undulating, level, waves, level

8. Dynamics: Phrase A, C moderate; Phrase B, B\(_1\) softer; strong strumming accents throughout

9. Checking: none yet

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1. Conjunct-disjunct data is slightly skewed by the two notes that appear only once in the transcription. However, they do not seem to be allotones of another pitch. Mäpiz intentionally chose to play Bb and F\# rather than B and F.

2. Data for pitch duration gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet  
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee  
People Group: Uyghur  
Performer(s): Ärkin Mäpiz  
Instrument(s): Uyghur dutar  
Song Name: Otlukh Nidalar  
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices  
   B. Version B without ornamentation: in appendices  
   C. Accidentals: E5

2. Form
   A. Phrases: ABA₁B₂B₃  
      B. Sub-phrases: A=abb₁; B=cbd₂eᵇ; A₁=a₁b₁f; B₁=d₁b₂gᵇ₁; B₂=d₂b₃; B₃=d₃b₄d₅b₆

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G minor  
   B. Tonal inventory: D₄, Eb₄, E₄, F₄, G₄, A₄, Bb₄, C₅, D₅, Eb₅, E₅, F₅, G₅, A₅  
   C. Tone frequency (iterations): 151 total iterations  
   D. Relative frequency of conjunct vs. disjunct motion: 47 conjunct; 28 disjunct  
   E. Tone flexibility: D₄=11; Eb₄=3; E₄=2; F₄=7; G₄=6; A₄=9; Bb₄=7; C₅=7; D₅=7; Eb₅=2; E₅=3; F₅=5; G₅=5; A₅=2  
   F. Repeated tones (reiterations): D₄=11, Eb₄=3; F₄=4; G₄=1; A₄=14; Bb₄=7; C₅=15; D₅=19; G₅=1  
   G. Tone duration¹
      a. Unit: eighth note  
      b. D₄=39; Eb₄=4; E₄=1; F₄=7; G₄=5; A₄=41; Bb₄=25; C₅=29; D₅=38; Eb₅=1; E₅=2; F₅=3; G₅=3; A₅=1

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=44; M₂d-u=10; u-M₂d=9; M₂d-M₂d=5; M₂a-u=5; u-P₅d=4; m₂d-m₂a=4  
   B. Intervals never used: too many to note; for total intervals not used in all non-Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      Aa =  
      Ab=       
      Ab₁=       
      Bc=       
      Bd=  

¹ Tone duration refers to the duration of each tone in the piece, measured in terms of quarter notes (1/8th note).
B. Meter and Tempo: 2/4 time, 172 bpm

6. Strum patterns: 3, 4-2, 6

7. Melody
   A. Ornamentation: hammer-on; release; release/hammer-on/release; hammer-on/release; release/hammer-on; upward glissando

   B. Motifs, themes: e e rre e e rrrr

   C. Melodic contour: cascade, jump to mid-high level, tight undulation, popcorn, rising, falling, undulating, falling, level

8. Dynamics: moderate throughout

9. Checking: none yet

1. Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Sänubar Tursun
Instrument(s): Uyghur dutar
Song Name: Dostlirim Khäyärlärdä
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: none

2. Form
   A. Phrases: AB
   B. Sub-phrases: A=ab; B=c

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G
   B. Tonal inventory: D4, E4, F#4, G4, A4, B4, D5, E5, G5
   C. Tone frequency (iterations): 71 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 23 conjunct; 11 disjunct
   E. Tone flexibility: D4=7; E4=5; F#4=7; G4=5; A4=8; B4=6; D5=7; E5=3; G5=2
   F. Repeated tones (reiterations): D4=21, E4=3; F#4=1, G4=1; A4=2; B4=5; D5=2; E5=1
   G. Tone duration
      a. Unit: eighth note
      b. D4=30; E4=6.5; F#4=4.5; G4=3.5; A4=9; B4=14.5; D5=9; E5=2; G5=0.5

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=21; u-M2d=4; u-M2a=3; M2a-u=3; m3d-u=3; M3d-u=3
   B. Intervals never used: too many to note; for total intervals not used in all non-Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):
      \[
      \begin{align*}
      Aa &= \text{\texttt{\textbf{\textbackslash h\texttt{\textbar\textbar\textbar\textbar\textbar}}}}
      
      Ab &= \text{\texttt{\textbf{\textbackslash h\texttt{\textbar\textbar\textbar\textbar\textbar}}}}
      
      Bc &= \text{\texttt{\textbf{\textbackslash h\texttt{\textbar\textbar\textbar\textbar\textbar}}}}
      \end{align*}
      \]
   B. Meter and Tempo: 2/4 time, 197 bpm

6. Strum patterns: 3, 1-5-6, 6-1-3
7. Melody
   A. Ornamentation: hammer-on/release combination (mordent); upward glissando
   B. Motifs, themes: \(\text{\textcopyright\textstyle} \)
   C. Melodic contour: waves, changing to level at the end of the excerpt

8. Dynamics: moderate throughout

9. Checking: none yet

---

1 Data for pitch duration is gathered directly from transcription, not pitch succession chart. The data is placed here in order to see interaction with other data.
Analytic Inventory Sheet
revised from Tom Avery’s Analytic Summary Sheet (Avery 2005b)

Researcher: Mike Kee
People Group: Uyghur
Performer(s): Sänubar Tursun
Instrument(s): Uyghur dutar
Song Name: Tüt Khulakh
Song Category: Folk song

1. Transcription
   A. Version A with ornamentation: in appendices
   B. Version B without ornamentation: in appendices
   C. Accidentals: none

2. Form
   A. Phrases: AB
   B. Sub-phrases: A=abcd; B=e

3. Tonal Succession Chart: in appendices
   A. Tonal center: key of G
   B. Tonal inventory: D4, E4, F#4, G4, A4, B4, C5, D5
   C. Tone frequency (iterations): 66 total iterations
   D. Relative frequency of conjunct vs. disjunct motion: 22 conjunct; 16 disjunct
   E. Tone flexibility: D4=10; E4=4; F#4=9; G4=4; A4=9; B4=6; C5=2; D5=5
   F. Repeated tones (reiterations): D4=23, F#4=1, B4=2
   G. Tone duration
      a. Unit: eighth note
      b. D4=34; E4=7; F#4=7; G4=6; A4=6.5; B4=7; C5=2; D5=2.5

4. Interval Succession Chart
   A. Intervals most commonly used: u-u=22; M2a-M2d=4; M2d-M2d=3; M2d-M2a=3; m3d-M2d=3
   B. Intervals never used: too many to note; for total intervals not used in all non-Heyt songs, see combined interval succession chart in appendices

5. Rhythm/Meter/Tempo
   A. Rhythmic inventory (by phrase and sub-phrase):

   \[
   \begin{align*}
   \text{Aa} &= \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \\
   \text{Ab} &= \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \\
   \text{Ac} &= \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \\
   \text{Ad} &= \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}} \underbrace{\text{.}}
   \end{align*}
\]
B. Meter and Tempo: 4/4 time, 196 bpm

6. Strum patterns: 3-3, 3-6, 6, 6-5

7. Melody
   A. Ornamentation: glissando down to undetermined note
   B. Motifs, themes: \( \text{
APPENDIX THREE
Version A Transcripts – with ornamentation

Nazugum (A) - Interlude excerpt

Abdurehim Heyt
Otlukh Nidalar (A) - Intro excerpt

Árkin Mäpiz

Melody

Drone

Dutar tab: D
Tüt Kulakh (A) - Intro excerpt

Melody

Drone

Dutar tab

Sänubar Tursun
APPENDIX FOUR
Version B Transcripts – without ornamentation

Nazugum (B) - Interlude excerpt

Abdurehim Heyt
Äynäk (B) - Intro excerpt

Abdurehim Heyt

Melody

Drone

Dutar tab

132
Anargúli (B) - Intro excerpt

Abdurchim Heyt
Khizlar (B) - Intro excerpt

Melody

Drone

Dutar tab

Abdurehim Heyt
Oynang Yarlırim (B) - Intro excerpt

Amrulla Jamal

Melody

Drone

Dutar tab

\[ D \]

\[ D, F, A, D \]

\[ D, F, A, D \]

\[ D, F, A, D \]
APPENDIX FIVE
Tonal Succession Charts of Melody String

Tonal Succession Analysis - *Nzugum* (B)

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It = 82
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**IT:**
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**FL (R):**
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**FL (C):**
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**DU:**
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FL (R)| 8 | 1| 1| 3| 54| 34| 54| 54| 53| 1| 1
(C)   | 6 | 1| 1| 3| 4| 5| 3| 4| 2| 1| 1
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DU   | 45| 1| 1| 8| 52| 30| 36| 30| 20| 7| 1| 1
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| 2  | 13 | 7   | 7   | 9  | 7  | 7   | 9  | 7  | 6   |

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155
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**FL (C)**  
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**DU**  
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161
APPENDIX SIX
Tonal Succession Analysis of Drone String

Note: Since the drone string does not carry the melody or have ornamentation as in the melody string, the drone string was not analyzed to the same extent as the melody string. The value of the analyses below lies in the ability to compare the number of notes each musician used when playing the drone string, as well as the number of reiterations and conjunct/disjunct motion which reflects how much the musician used the other notes compared with how much he/she used open drone string (G3).

_Nazugum (B) drone_

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Vātān Khādri (B) drone
### Oynang Yarlirim (B) drone

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**IT** 83 2 8 = 93

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**Otlukh Nidalar (B) drone**

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**IT** 141 4 8 = 153
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**IT** 44 25 1 1 = 71

**IT** 43 23 2 = 68
## APPENDIX SEVEN
### Interval Succession Charts

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|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| u     | 56| 4   | 2   | 7   | 3   | 2   | 2   | 2   | 5   | 3   | 1   | 4   | 2   |     |     |     |     |     |     |     |     |     |     |
| m2d   | 1 | 2   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m2a   | 2 | 10  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M2d   | 5 | 8   | 4   | 3   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M2a   | 2 | 6   | 3   | 4   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m3d   | 1 |     |     |     | 2   | 1   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m3a   | 2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M3d   | 2 |     |     |     | 2   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| P4d   | 3 |     |     |     |     |     |     |     |     | 1   | 2   | 1   |     |     |     |     |     |     |     |     |     |     |     |
| P4a   | 5 |     |     |     |     |     |     |     |     |     | 1   |     |     |     |     |     |     |     |     |     |     |     |
| P5d   | 4 |     |     |     |     |     |     |     |     |     |     | 2   |     |     |     |     |     |     |     |     |     |     |
| P5a   | 2 |     |     |     | 1   | 1   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m6d   | 5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m6a   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M6d   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M6a   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m7d   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m7a   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M7d   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M7a   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Nd    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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## Combined Interval Succession Chart – Heyt songs (B)

|        | u   | m2  | m2a | M2  | M2a | m3  | m3a | M3  | M3a | P4d | P4a | P5d | P5a | m6  | m6a | M6  | M6a | M7  | M7a | 8d  | 8a  | rest |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| u      | 391 | 17  | 10  | -45 | 25  | 6   | 6   | 4   | 4   | 11  | 9   | 9   | 5   | 9   | 4   | 3   | 7   | 3   | 3   |     |
| m2     | 21  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m2a    | 10  | 8   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M2     | 33  | 44  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M2a    | 27  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m3     | 4   | 4   | 1   | 3   | 1   | 3   | 1   | 3   | 2   | 1   |     |     |     |     |     |     |     |     |     |     |     |
| m3a    | 5   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M3     | 4   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m6     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m6a    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M6     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M6a    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M7     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M7a    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 8d     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 8a     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| rest   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Gray square – interval succession not used in Heyt songs

*Note: The vast majority of most commonly used interval successions fall within a diagonal line roughly from M6\(\text{d}u\) to u-M6\(\text{d}\) (with notable exceptions along the upper u X and Y axes, the P4 and P5 cells, and M2a-8d). Therefore, this chart focuses on these intervals.*
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|--------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|------|
| u      | 44| 2   | 2   | 9   | 3   | 3   | 3   | 1   |     |     |     |     |     |     |     |     |     |     |     |     | 1  | 1  |      |
| m2d    | 2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m2a    | 3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M2d    | 10| 5   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M2a    | 5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m3d    | 3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m3a    | 3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M3d    | 2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M3a    | 2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| P4d    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| P4a    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| P5d    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| P5a    | 1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m5d    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m5a    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M6d    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M6a    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m7d    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| m7a    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M7d    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| M7a    |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 8d     |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 8a     |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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## Combined Interval Succession Chart – Jamal, Mäpiz, Tursun Songs (B)

|    | u | m2d | m2a | M2d | M2a | m3d | m3a | P4d | P4a | P5d | P5a | m6d | m6a | M6d | M6a | M7d | M7a | Rd | 8a | rest |
|----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|------|
| u  | 1488 | 5 | 19 | 11 | 5 | 7 | 2 | 3 | 5 | 2 | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| m2d| 6 | 9 | 11 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| m2a| 4 | 11 | 5 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| M2d| 18 | 9 | 9 | 10 | 1 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| M2a| 15 | 1 | 6 | 9 | 5 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| m3d| 7 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| m3a| 6 | 1 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| M3d| 6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| M3a| 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| P4d| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| P4a| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| P5d| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| P5a| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| m6d| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| m6a| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| M6d| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| M6a| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| M7d| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| M7a| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Rd | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8a | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| rest| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Gray square – interval succession not used in Jamal, Mäpiz, Tursun songs

*Note: The vast majority of most commonly used interval successions fall within a diagonal line roughly from M6d-u to u-M6d (with notable exceptions in the P4 and P5 cells). Therefore, this chart focuses on these intervals.*
NOTES

1. The modern iteration of the ethnonym “Uyghur” has been applied to this people group only within the past 80-90 years. Previously they were referred to as “Turki” or “Turkestan.”

2. The text in Hornbostel & Sachs at this point appears to contain a typographical error. The actual text reads, “Lutes whose body is built up in the shape of a bowl are classified as bowl lutes.” Yet this text is placed in the article as if it describes a necked box lute, not a necked bowl lute. The bowl lute is listed immediately previous to the necked box lute. Earlier in the text, the description for a spike box lute – classification number 321-312 – states, “The resonator is built up from wood.” Therefore, it appears that the description used for the necked box lute should have been placed as the description for the necked bowl lute rather than the necked box lute.

3. I have never seen a Uyghur dutar player use the unison tuning.

4. My dutar is 52.5” (133 cm.) long. This is the average length of a full-size Uyghur dutar made in Kashgar.

5. For the most part, Uyghur music continues to be an oral tradition. However, as more and more Uyghurs attend university and take music courses, more and more educated Uyghurs are beginning to use the Western score to notate Uyghur music, albeit mostly muqam.

6. I did locate another source, Eleni Kallimopoulou and Federico Spinetti’s chapter entitled “An Analysis of the Uyghur On Ikki Muqam: Aspects of Melody and Form in the Sigah Suite” in Analysing East Asian music: patterns of rhythm and melody by Simon Mills, published by Musiké in the Netherlands. Unfortunately, it was too late to purchase it in time to read and use as a source for this paper.

7. I later learned that she was Heyt’s first dutar teacher when he was young. Therefore, I can honestly say that my dutar teacher was also Heyt’s dutar teacher.

8. When I played my song for some of my Uyghur musician friends, they asked me if it was from Hotan, a city approximately 300 miles from Kashgar. Uyghur culture is an oasis culture, and each oasis has developed its own unique music characteristics that are recognizable by Uyghurs from other oases (see Justin Rudelson’s Oasis Identities, published in 1997 by Columbia university Press). Based on the feedback from my Uyghur musician friends, it appears that there is something “Hotanish” about my song. This would definitely be a topic worth researching.

9. I did not include several sections from Avery’s original Analytic Summary Sheet because of the narrow scope of the songs being analyzed. For example, since I did not analyze the lyrics, the sections concerning words were not included. Likewise, since I was not analyzing the whole genre or category of songs, those sections were not included. In other words, I tailored the original Analysis Summary Sheet to fit the specific analysis needs of my study.

10. When teaching me a complex strumming pattern with several different rhythms, my dutar teacher beat out the pattern of one rhythm by tapping it out on the top of my foot with her foot.

11. There is a wide divergence among dutar players as to which fingers of the left hand are used to play which combination of notes. Some dutar players are more comfortable using a certain finger more than another. On the other hand (no pun intended), the same player might use a different finger when playing the same phrase two different times to introduce variation. Therefore, I have not included any notation that indicates which finger should be used.

12. I used a computer program called Metronome to help me determine the tempo of each song excerpt.
13. This is not surprising, in that the dutar is commonly used to accompany Uyghur dances, which are rhythmically very strong.

14. This is the sentence my Uyghur friends used when describing the way most foreigners – or Han Chinese - played Uyghur songs, because while the foreigners learned the basic melody, they did not master the Uyghur method of ornamenting songs. Therefore, to the Uyghur aesthetic point of view, while it may have been played “correctly,” it did not have a Uyghur flavor.

15. These were not the exact words they used. However, after quite a bit of questioning to make sure I understood what they meant, this was the intent of what they communicated.

16. This is a tentative conclusion for two reasons: 1) I need to discuss this more thoroughly with Uyghur musicians; and 2) I need to analyze many more songs before I can feel confident in this conclusion being more than tentative.

17. In the section on analysis I am particularly indebted to Tom Avery for his Analytic Summary Sheet and other materials from his class on the analysis of non-Western music, and to Vida Chenoweth for her Melodic Perception and Analysis.

18. Throughout this paper notes are referred to using the octave numbering system whereby middle C is called C4, the D one whole step above C4 is called D4, the Eb one half-step above D4 is called Eb4, the C one octave above C4 is called C5, etc.

19. The (B) indicates that this data was obtained from the version of the transcription that does not contain the hammer-ons and releases that reflect Uyghur flavor.

20. The vast majority of interval successions fall within the range of u-u to m6a-m6a. There are certainly several interval successions that occur beyond this range. Please see the complete combined interval succession in the appendices.

21. It has already been mentioned that the ending tones of these excerpts are not the actual ending tones of the songs. However, since the data appears to indicate that each of these songs is tuned to a recognizable key, the necessity of using the ending tone to determine tonal center is not as great.

22. In fact, an eighth note was the duration unit that was selected for every excerpt.

23. The original citation used daadaada (d=descending, a=ascending). However, I prefer to use the terms downstroke and upstroke, which seem to be more descriptive of the actual action rather than using the more abstract words of descending and ascending.

24. Strictly speaking, Tursun actually used three techniques since the hammer-on/release is a combination of two individual techniques. Nevertheless, the use of only three purakh techniques is still an extremely low amount.

25. This would be the sixth fret for dutars made in Kashgar that are typically not equipped with frets in the sixth and eleventh fret positions.
REFERENCES


------. 2005a. *Introductory Considerations for Generative Analysis*. Course materials. Analysis of Non-Western Music course at SIL.

------. 2005b. *Analytic Summary Sheet*. Course Materials. Analysis of Non-Western Music course at SIL.


