Rhythmic Texture of Iranian Music: A Performance Analysis of *Mahoor Tasnif* by M. Tabrizi-zadeh and Dj. Chemirani

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1. HISTORICAL NARRATIVE

1.1 Introduction

The first constitutional revolution of Iran in 1905, which aimed to limit the power of the court, managed to establish a modern view of the individual in society (Abrahamian, 1982, 50–51). This era gave birth to a new "middle" class of society consisting of two main groups; intellectuals and artisans who traditionally lived under the patronage of the elite, and "common" folk who had no connections to musicians of the court but would learn to imitate them. Figure 1 is a postcard showing the famous revolutionary leader Bgher-Khan with his followers. This social transformation had implications for musicians and consequently, for music, with its origins dating back fifty-four years prior.

Figure 1. Revolutionaries in Tabriz (Helbig, 2016).

[2] In 1851, Amir Kabir (Figure 2), the Grand Vizier to Naser el-Din Shah (1831–1896), the king of Persia, succeeded in constructing the first modern school in Iran. Though he himself did not last to see it as he made the mistake to disregard the jealousy of court members that surrounded him (Amanat, 1991). He was dismissed by order of the king 2 days before the school's opening (Hedayat, 1983), and secretly killed one year after (Amanat, 1991). *Dar ul-funun* (literally "house of techniques") (Figure 3) was opened later that same year with the arrival of its first Austrian teachers (Khaleghi, 2011).

[3] Though open to the public, this school was mainly geared towards the elites of society. The first plan of the school was to send some of its students to Europe to learn the ways of the industrial modern West for later implementation in Iran (Hedayat, 1983). Some of these students, being from elite families, also had a hand in music,[1] thereby indirectly importing

Figure 2. Statue of Amir Kabir in Tehran (Rahmanian, 2011).

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1. Classical musicians in the nineteenth century were for the most part under the patronage of the court or the elite families. Naturally people from these social spaces had an easier access to music masters of the time.

Figure 3. Old photograph of dar ul-funun, from the archive of the Institute of Contemporary History.[2]

Western musical ideas and intellectualism into Iranian culture. A prominent consequence of this cultural exchange was the introduction of Western staff notation to Iranian music. Mehdi Qoli Hedayat (Figure 4), one of the students sent to Europe in the late 19th century, was most likely the first to attempt a complete transcription of the oral system of Iranian classical music (ibid.).[3]

[4] At the same time, Naser el-Din Shah became quite adamant that he wanted a military band in the Western style (ibid.). He was very much inspired by the troupes that sometimes

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[2] https://www.iichs.ir/

[3] Mehdi Qoli's father and brother also were sent by the school to Europe. The former brought telegraph technology to Iran, while the latter created its first railroads (Hedayat, 1983).

Figure 4. Mehdi-Qoli Hedayat (1863-1955), from the archive of the Political Studies and Research Institute[4]

followed foreign dignitaries on their missions to Iran, and also by his later travels to Europe (Khaleghi, 2011). Some claim (Fayaz, 2015) that this contact with military music was the first real encounter of Iranians with Western music.

[5] In 1869, the music division of *dar ul-funun* was created as a sub-division of the military school (Khaleghi, 2011)(Figure 5).[5] The first teachers of the school were brought from France and Austria. Under the supervision of Monsieur Lemaire (Figure 6), musicians inside

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4. https://psri.ir/

5. The modernization process that I study here is a direct consequence of the court and its members trying to imitate the West, and as mentioned, military music was Iranian's first real encounter with Western music. Also, one of the main objectives of *dar ul-funun* was to restructure the entire military, since the king's fascination with Western military was not limited to its music troupes. It makes sense that the first music school in Iran was part of the military school.

Figure 5. The music division of dar ul-funun (Khaleghi, 2011)

Figure 6 : Lemaire (sitting to the right of the man in black coat) with his students (Khaleghi, 2011).

Iran started to learn Western music theory and staff notation for the first time. Lemaire personally procured Western instruments for the school, and taught all courses by himself with the help of Mirza Ali Akbar Khan Naqqash-bashi (the court painter), who translated these lessons from French into Farsi (Khaleghi, 2011). A translation of one of Lemaire's lessons became the first ever Iranian publication on Western music theory.[6]

1.2 Vaziri, Khaleghi and Saba

[6] These events did not have any immediate effect on music-making in Iran (Khaleghi, 2019, 241), until Alinaqi Vaziri (1886–1979) transformed dar ul-funun's music department into an independent school in 1923. Previously, Vaziri (Figure 8) left his military job around 1918, in order to move to Paris and study music. There, he was allowed to join classes at the *Ecole Superiure de Musique*, but not allowed to enroll due to his age being much older than other students, as he was 31 years old at that time. Three years later he moved again, this time to Berlin and the *Hochschule fur Musik* to study Composition and Music Education. There, he published the first Persian music textbook "Dastur-e tar" (A Course on *Tar*) (Figure 7) in 1922 (Khaleghi, 2011).

[7] Upon coming back to Iran, Vaziri reshaped the old music division and formed it into an independent school of music, which opened in 1923 (ibid.). Among the first to enroll in Vaziri's school were Ruhollah Khaleghi (1906–1965) and Abolhasan Saba (1902–1957), who both would become influential (musical) figures in the following decades. Khaleghi (seen next to Vaziri in Figure 9) wrote the first book on the history of Iranian music and many music textbooks and articles. He was also a prolific composer in the style of his teacher Vaziri. In the following decades he worked to continue his teacher's vision for the school of music, to bring the "science of music" to Iran (ibid.). Abolhasan Saba (Figure 10), on the other hand, was a student of the most famous masters of the oral tradition. With a traditional music background and Vaziri's teachings of Western music, Saba would become the most well-known pedagogue of his time (ibid.). A sample of Saba's many achievements was his use of one-line staff notation to represent *tombak* (Figure 12) rhythms for the first time (Pakshir, 2018, 71). Saba was also a mentor to Hossein Tehrani, who would later

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6. Mohsen Mohammadi has extensively written about Lemaire's activities in Iran and his role in introducing Western music to the court (2017, 35–66)

revolutionize *tombak* and rhythmic performance (Khaleghi, 2011). Figure 11 is one of the rare moments where we see Vaziri, Saba and Khaleghi together.
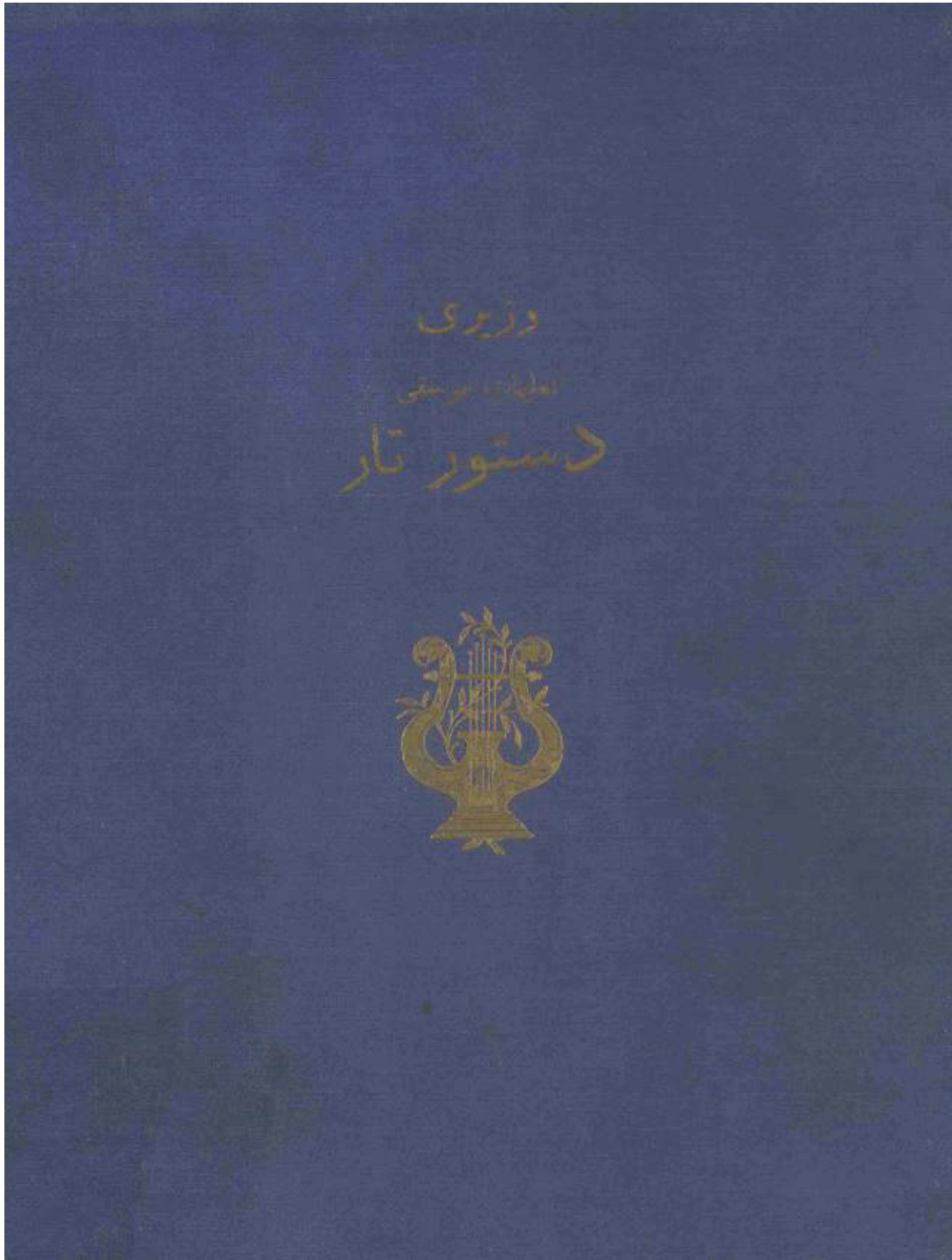

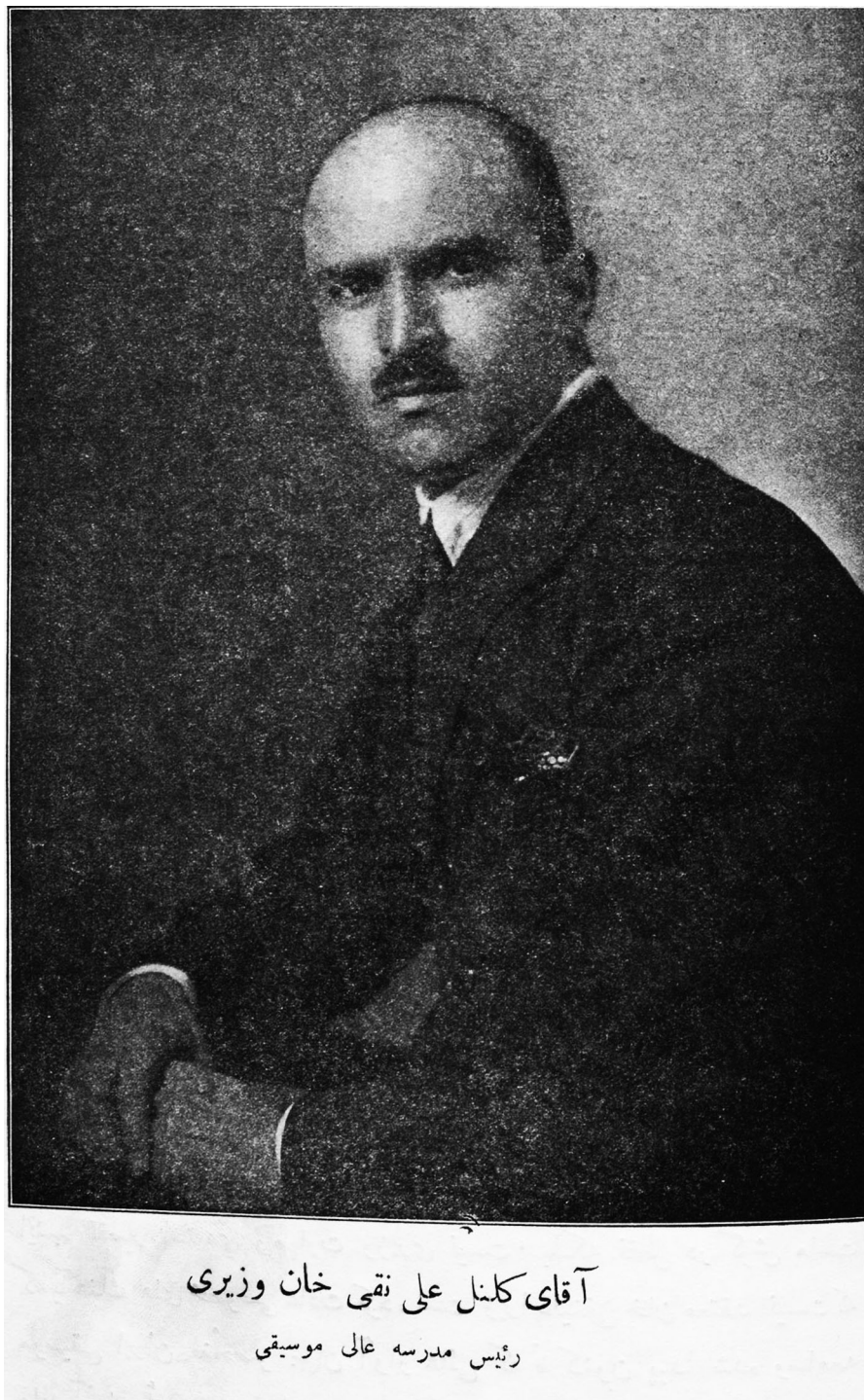**Figure 7.** *Dastur-e tar* by Vaziri.

آقای کلنل علی نقی خان وزیری

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Figure 8. Alinaqi Vaziri (Khaleghi, 2011).

Figure 9. Khaleghi (left) sitting with Vaziri (Khaleghi, 2011).

Figure 10. Abolhasan Saba (Khaleghi, 2011).

Figure 11. Vaziri's orchestra from 1925. On the right standing in the position of conductor is Vaziri himself. Saba, soloist of the orchestra, sits on the left of the child with his coat slightly lighter than the rest. Khaleghi is seen 2 rows behind him, wearing white pants (Khaleghi, 2011).
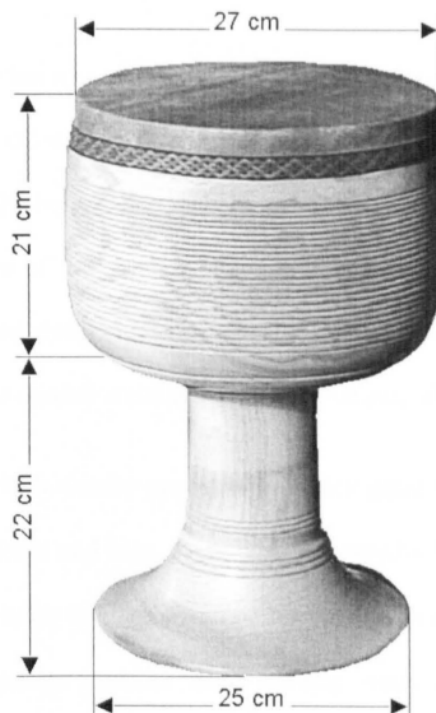

Figure 12. A typical tombak (Azadehfar, 2004, Vol. II, 232).

1.3 Tehrani

[8] Hossein Tehrani (Figure 13), dubbed the father of *tombak* in oral history, is the most significant figure in all *tombak* narratives. In this article, "old" and "new" eras in the timeline of *tombak* are distinguished by using Tehrani as the focal point. He was both a classical musician and an entertainer. He elevated the social and musical status of *tombak* players, while bridging the gap between art and entertainment. He was also a music innovator and teacher. He created new styles and genres of *tombak* performance (Khaleghi, 2011) and passed them on to the next generation, thereby developing the first modern *tombak* pedagogy. While the role of Tehrani in expanding the repertoire of *tombak* is well-researched (Pakshir, 2018), there have been no studies that trace his musical lineage in order to create a narrative of the developments of *tombak* in this era. To do so, we need to jump to a narrative parallel to that of Vaziri.

[9] Around the year 1882, a young boy named Gholam-Hossein (Darvish Khan) joined the music division of *dar ul-funun.* There he learned to read music, and play the horn and small

Figure 13. Tehrani (right side) with his student Djamshid Chemirani (During, 2004).

drum (Khaleghi, 2011). He also studied *Tar* with the master of his time, Agha Hossein-Gholi (Mallah, 1989). Darvish Khan would become the first musician to be emancipated from their noble lord's patronage (Khaleghi, 2011). He was also one of the first to take up the modern mantle of composer in Persian music (ibid.), a role that had lost its weight in the previous century both due to the orality of the tradition, and also the musicians' reluctance to publicly acknowledge their musicianship. After his emancipation, he became an avid music teacher and taught many great musicians, as well as influencing a new generation of composers. One of his best students was Abolhasan Saba (ibid.).

[10] From the old masters of the Qajar era to Darvish Khan (Figure 14),[7] from Darvish to Abolhasan Saba, and eventually through Saba himself, a modernized version of the tradition of rhythm and rhythmic performance was passed on to Hossein Tehrani. This tradition can be traced as far back as Mohammad-Sadegh Sorur ul-Molk (Figure 15), the most renowned *santur* player of his time and director of the royal troupe of musicians (Khaleghi, 2011). It is said that when Sorur ul-Molk moved from Shiraz to Tehran, he brought with himself two *tombak* players that would teach many songs (*tasnif*) to court musicians. These songs have been orally passed down through generations of musicians, and are rich in rhythmic variety (Fatemi, 2013). It is very likely that the rhythmic configurations of the vocal music, namely *tasnifs*, are the origins of the rhythmic complexities that developed during modernization.[8]

[11] A top student of Sorur ul-Molk, Habib Soma' Hozur (Figure 16), used to accompany his master with *tombak* (Khaleghi, 2011), and was recognized as a *tombak* performer and teacher. Soma' Hozur (Seen with his master in Figure 17) taught many students, the best of whom was Haji Khan (ibid.), who was also a close friend of Darvish Khan. In a sense, this tradition later got transmitted to Saba through Darvish Khan and Haji Khan, who in turn passed it on to Hossein Tehrani. Figure 18 traces the lineage of *tombak* from Sorur ul-Molk to Tehrani, and further on to his students.

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7. Qajars were a dynasty that ruled Iran between the late 18th and early 20th centuries.
8. Oral testimony of Abdullah Davami, from the booklet of the album *Qajar Tasnifs* (2007).

Figure 14. Darvish Khan (1872-1926) sitting on the right, next to Kamal ul-Saltana father of Abolhasan Saba (Khaleghi, 2011).

Figure 15. Sorur ul-Molk (on the left) (Khaleghi, 2011).

Figure 16. Soma' Hozur (1852-unknown) (Khaleghi, 2011).

Figure 17. Sorur ul-Molk in the middle sitting with a stick,[9] with Soma' Hozur on his left (Khaleghi, 2011).

9. According to oral history as well as Khaleghi (2011), Sorur ul-Molk's position as a musician of the court was higher than his contemporaries; he was in charge of disciplining the royal troupe of musicians —hence the stick in his hands— all of whom were the the most renowned masters of that period. This indicates that most likely, the line of tradition in Figure 18 came from the court of Shiraz, which served as the capital of the previous ruling dynasty (Zand) of Persia until 1794 (Amanat, 2017).
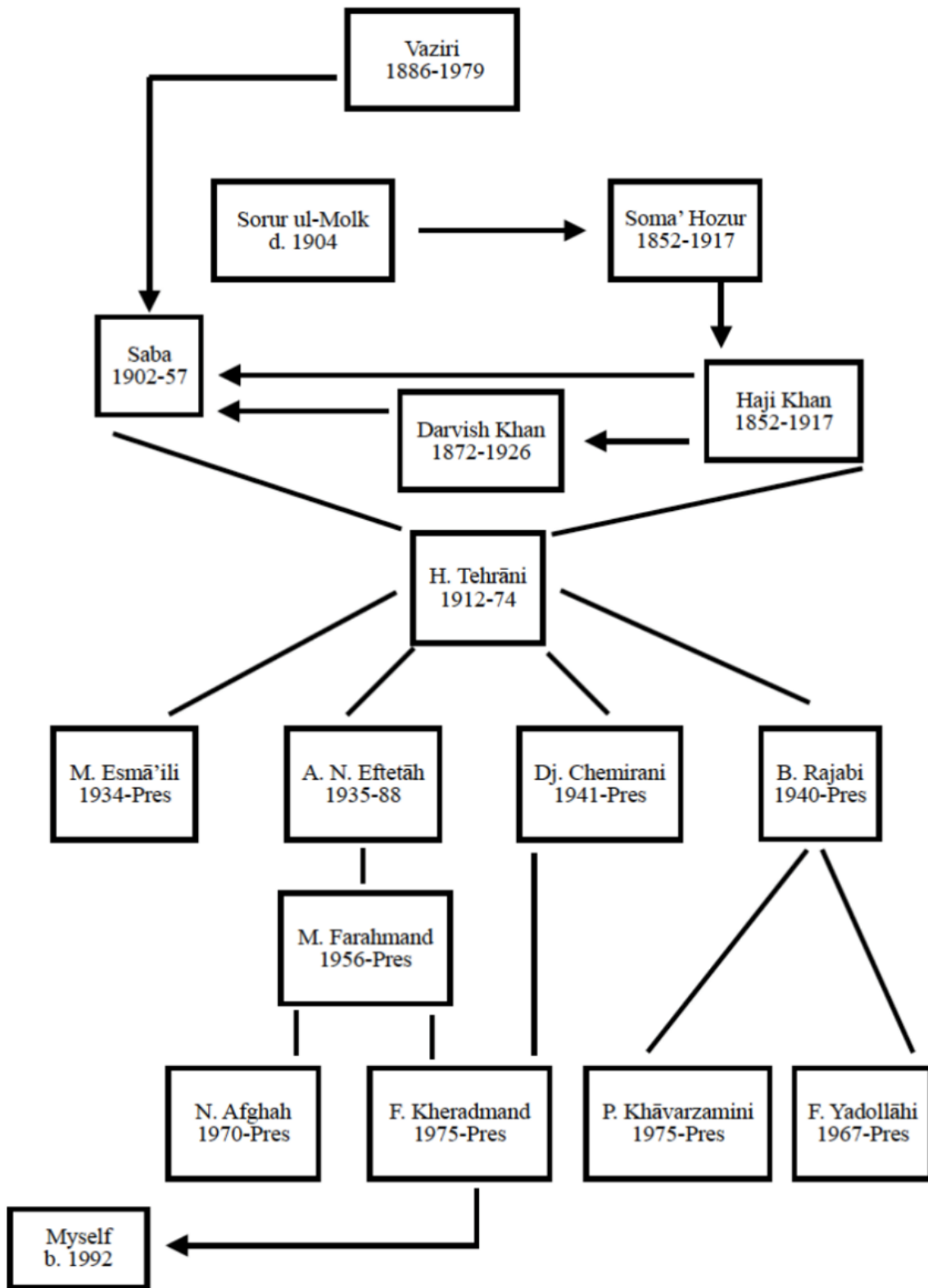
Figure 18. A genealogy of *tombak* and rhythm before and after Tehrani.

1.4 *Tombak* before Tehrani

[12] The earliest document of an instrument with this name is a twelfth century poem from Samarqand, Transoxania (Pakshir, 2018). However, what we know of the history of *tombak* is mostly from oral tradition, descriptions in mostly European travelogs, and the gramophone recordings of the early twentieth century. Historically, it seems that *tombak* was only an accompanying instrument either for melodic instrument(s), or for self-accompanying *tasnif* singers. These gramophone recordings serve as a great source for connecting what was happening socially to what was being performed musically. Through an analysis of these recordings, we can gain some understanding of what accompaniment techniques were used by *tombak* in early twentieth century Iranian classical music.[10] Afterwards, a comparison of the results with Tehrani's performance style shows how these grooves and techniques have changed since.

[13] My analysis shows that old *tombak* players in Iranian music either utilized an ostinato pattern with slight variations, or imitated the melody. It is interesting to note that each performer mostly keeps to one of these techniques, according to the earliest available recordings. They show that before Tehrani there were various styles of *tombak*, but none seem to have created a distinct school. The hypothesis of this article is that the creation of a *tombak* school with Tehrani as the central figure, regardless of what this school embodied, is the defining modernization process of *tombak* and rhythm in Iranian music.

[14] Figures 19–22 are transcriptions of *tombak* lines from recordings of older styles. It is interesting to note that Abdullah Davami (one of the *tombak* performers in these recordings) was also a student of Soma' Hozur.[11]

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10. In the early 20th century, recording opportunities were only offered to the court musicians of the highest level. In later years with the commercial success of media technologies in Iran, performers from other venues were also recorded. However, this article studies a line of tradition that originates in the court, and therefore select recording sessions have been chosen to represent this focus.

11. For a detailed description of each recording session see Mohammadi (2017, 237–244).

Figure 19. 3/4 meter groove ostinato, from a 1914 expedition to Tbilisi, performed by Abdullah Davami. The excerpt can be heard here.

Figure 20. 2/4 meter groove ostinato (left) with its variation (right), from a 1909 expedition to London, performed by Reza Qoli. The excerpt can be heard here.
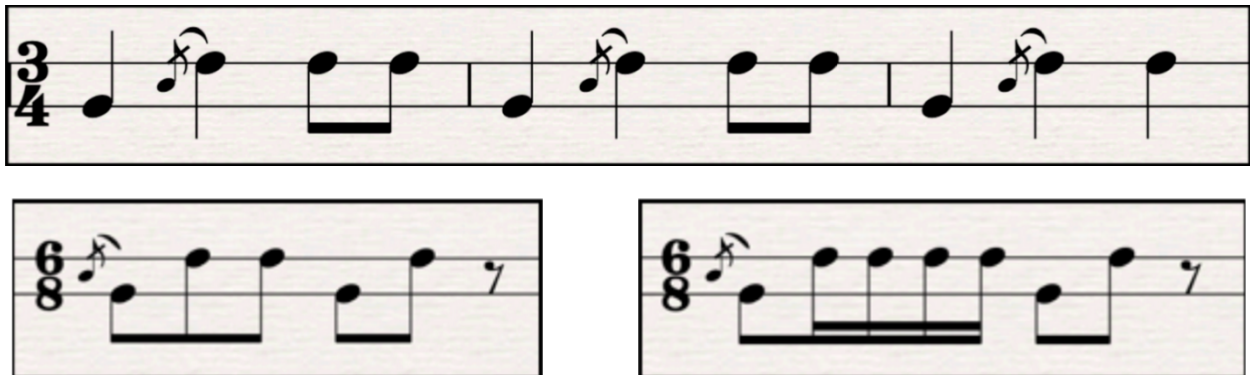
Figure 21. Another 3/4 meter groove ostinato (top) with its variations (bottom) in 6/8, from a 1912 recording in Tehran, performed by Haji Mohammad Khan. The excerpt can be heard here.
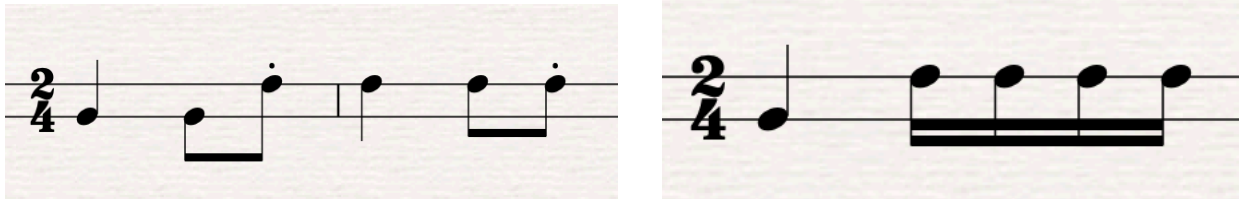

Figure 22. A highly imitative 3/4 meter ostinato (left) with its variation (right), from a 1909 expedition to London, performed by Reza Qoli. The excerpt can be heard here.

[15] Figures 23 and 24 are transcriptions Tehrani's accompaniment patterns. They demonstrate that he mostly keeps to an ostinato groove, but with more expansive variations than the previous era.
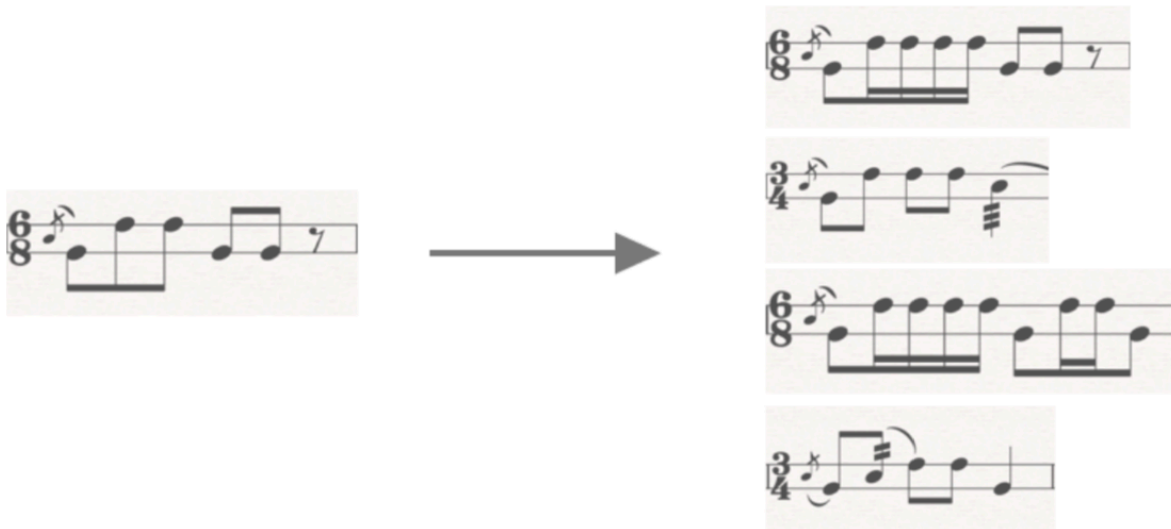
Figure 23. 6/8 groove that acts as the ostinato here, with four different variations in 6/8 and 3/4 meters. From a private recording in the 1950s with *setar* played by Abolhasan Saba. The excerpt can be heard [here](#).
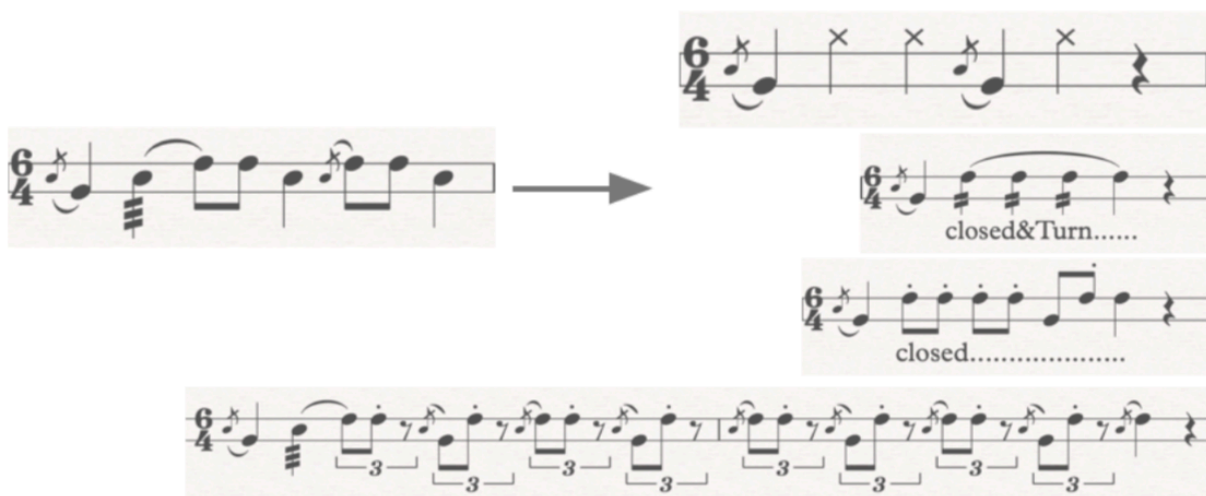
Figure 24. A standard 6/4 groove with variation of a solo *tasnif* with *tombak* from the 1970s. Tehrani's performance is rich with rhythmic variations, groupings, and somehow similar to how *tasnif* tradition utilizes rhythmic motifs. The excerpt can be heard [here](#).

[16] It is also quite noticeable that the sound of the *tombak* itself has changed between Tehrani and his predecessors. At the same time, my personal experience with old *tombaks* suggests that the morphology of the instrument has not changed much. This points to the fact that Tehrani also changed how this instrument was played, as well as what performers tended to play. A spectrographic analysis of *tombak* sound (Figure 25) from the performances transcribed here shows that in the old era there were two distinct timbres on the *tombak*, while in Tehrani's performance it has increased to three.

2. ANALYSIS OF RHYTHMIC TEXTURE

[17] *Tombak* is also called *zarb*, a term that means the "beat" and also signifies metric rhythm. Consequently, the performer is called *zarb-gir*, meaning the keeper of *zarb*. *Zarb* can also translate into multiplication, and is the opposite of *taqsim* (meaning division), which in Arab and Turkish musics refers to free-metre performance (Clayton, 1996). Historically two categories of rhythm existed in Iran, one of which is *iqa'at* or *adwar, and* was used in classical music.[12] Although this category has not survived in Iran, most rhythms in this category are still played in Turkey, Syria, Egypt, and other countries from the Middle-East.
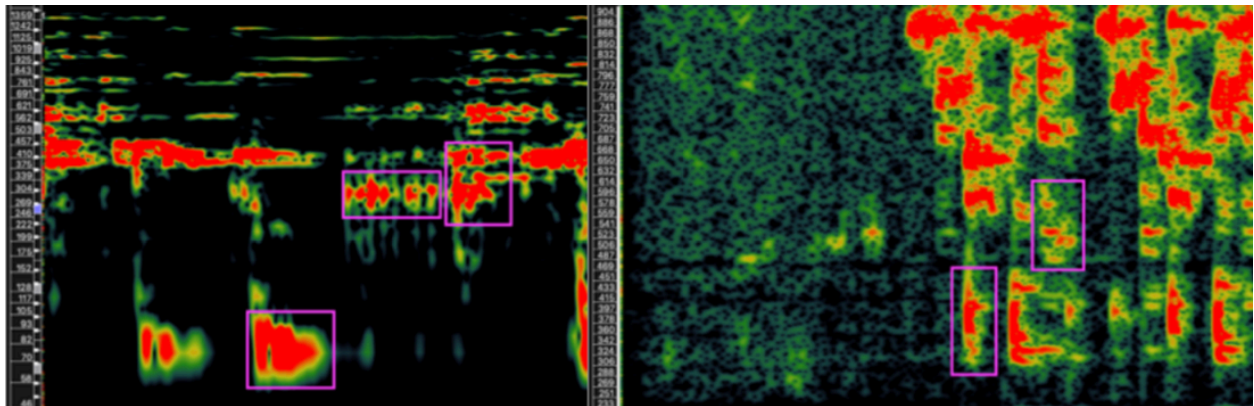
Figure 25. Right: main timbres of Reza Qoli's *tombak* from 1909, at 310–480 Hz and 482–622 Hz. Left: main timbres of Tehrani's *tombak* from 1950s, at 60–100 Hz, 250–350 Hz and 255–450 Hz. Produced using the Sonic Visualizer software.

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12. In writings on the history of Persian music, classical —or art— music generally refers to the musics that were performed at courts and palaces, and had well-known composers and/or performers.

[18] In the second category are rhythms that belonged to folk traditions. From a purely musical point of view, all of these rhythms existed in the *adwar* collection as well. However, their performance style in folk traditions point to the fact that they are categorically different. The venues for these rhythms are unknown as no clear documentation of them exists before the 19th century, but according to oral history they have been continuously played in folk music settings. According to Mohsen Mohammadi (2017), in the late 19th and early 20th centuries, new recording technologies paved the way for the formation of a new classical system in Iranian music. While Mohammadi's work does not focus on rhythm, it is clear that these "oral" rhythms had taken the place of the old *adwar* system.

2.1 Rhythmic texture

[19] The rhythmic texture of a performance is the vertical relationship of the rhythmic components of each line. In this analysis three unique textures have been found: homorhythmic, heterorhythmic, or semi-heterorhythmic. Homorhythmic texture occurs when these components match each other, while heterorhythmic is the opposite. Semi-heterorhythmic, a term that is being used here for the first time, is used to identify textures in which the components are mostly the same, with light variations; instances where the components don't match perfectly, but the motifs are closely related and only differ due to rhythmic ornamentation. It seems quite impossible to fully explain this relationship, as it arises from my own understanding of this tradition by both being an encultured listener and an insider performer. My hypothesis is that this relationship comes from rhythmic ornaments that are common to Iranian vocal music, specially the *tasnif* tradition. In other words, they tell us how the same motif can still be interpreted in different ways while remaining the same to the practiced listener. Figure 26 presents examples from each of these textures.
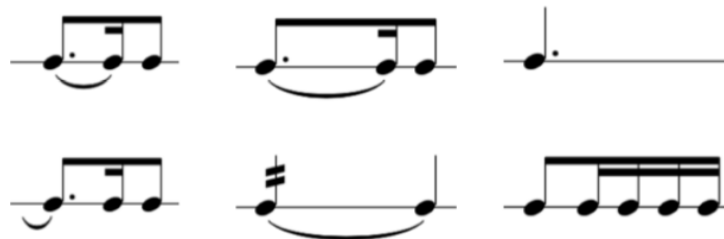

Figure 26. Homorhythmic (left), semi-heterorhythmic (middle) and heterorhythmic (right) textures.

[20] In the example of semi-heterorhythmic texture above, the middle note of the upper motif is called the *eshareh* ornament, and although important in the aesthetics of Iranian music, it is not considered the foreground of the performance. Therefore, it is quite common to accompany motifs that feature *eshareh with* a roll technique, which is transcribed in the middle motif of the lower line as a tremolo.

[21] Michael Tenzer's (2011) hierarchy of pulse, change of tone color, and change of duration have been used here to extract rhythmic motifs of a performance. Tenzer writes that "pulsation is a metric by which rhythm can be grouped in proportionally related values [...], but it does not by itself qualify as rhythm" (ibid., p. 372)." In this work, pulsation (or its deliberate absence) is the defining line between consequent motifs, and therefore can distinguish them.[13] Aside from sonic data and analysis, embodied knowledge of the researcher as an insider and a *tombak* player is useful here in order to realize where these pulses are supposed to be in the performance. This is a crucial component, as most often, the sound quality of old recordings are not satisfactory for analytic purposes. The other two elements (tone color and duration change) are quite self-explanatory. In the transcriptions, either two-line or single-line staves are used. For texture analysis, a single-line transcription will suffice, keeping in mind that each motif starts with a pulse. If somewhere a two-line staff has been employed, it is merely to distinguish timbre. In such cases, the bottom line denotes bass strokes while the upper one represents treble ones. Therefore, although change of tone color has been used as a key element in analyzing rhythmic components, it is not necessary to show them when analyzing rhythmic textures since I am not applying a "melodic" theory of rhythm here.

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13. Some might prefer "beat" to pulse, and they'd also label what I call "beat" in this article as sub-divisions. However, the idea of rhythm being a unit that is "divided" into beats and subdivisions is a Western one (r.f. Khaleghi, 2019). In Iranian music, rhythm is constructed by adding up a number of *zarb* or *naqareh* (literally meaning "beat") and thus constructing a *dowr* (meaning "cycle"), which has been taken as equivalent to rhythm in this paper.
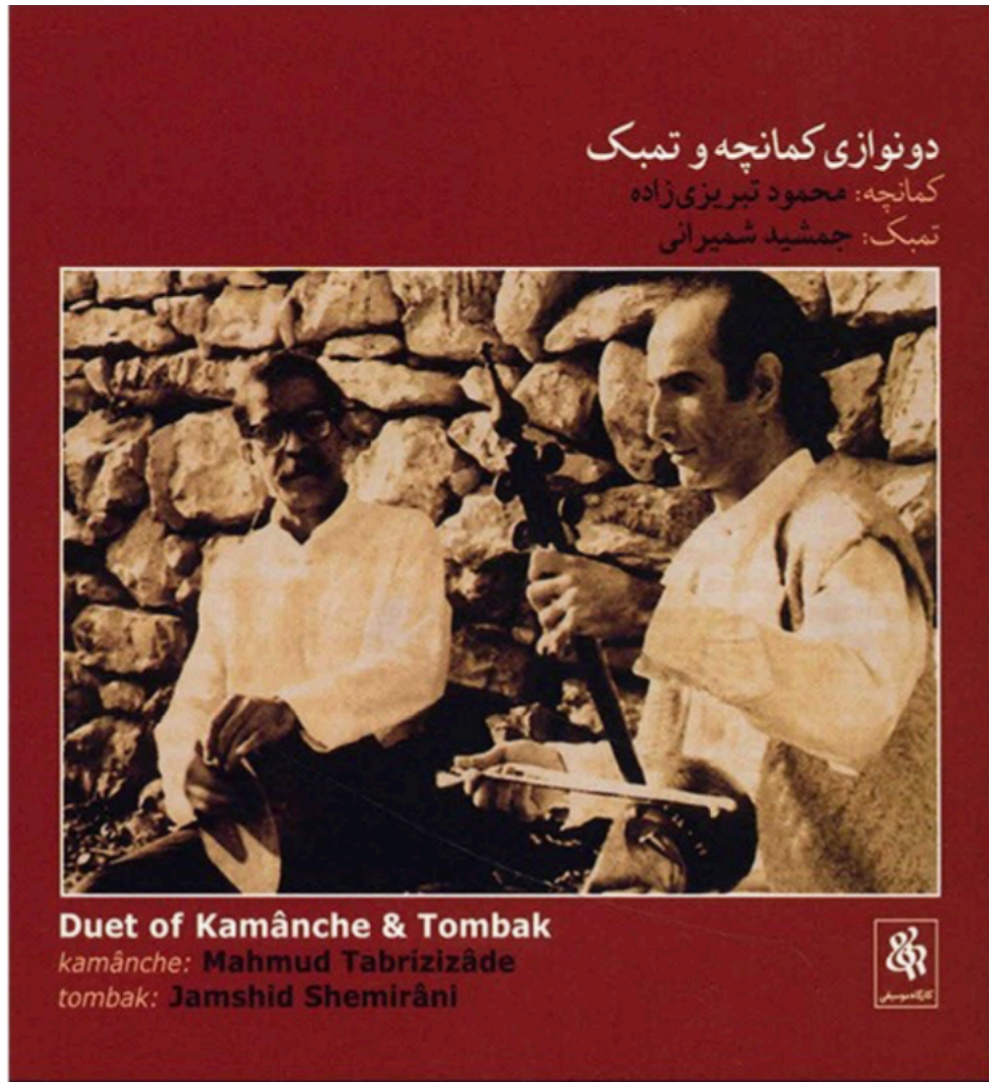
Figure 27: The album's first publication in Iran (2011).

2.3 Case study

[22] The piece selected for analysis here is an instrumental interpretation of a *tasnif* (song).[14] It was composed by Darvish Khan in 1924, on a poem from Mohammad-Taghi Bahar. The song is part of a performance that was released in France in 1993, though it does not seem to have been recorded in a studio as faint street sounds can be heard. Therefore, it is either an LP recording, or a recording session from an amateur studio. The performers are Mahmood Tabrizi-zadeh (1951–1997) and Djamshid Chemirani (b. 1941). Tabrizi-zadeh was an Iranian

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14. "Ze man Negaram" in *mahoor*. Figure 27 shows the cover of the album "Duet of *Kamancheh* & *Tombak*".

kamancheh and *santur* player who moved to France at an early age. He studied, among others, with Dariush Talai, who in turn studied with Ali-Akbar Shahnazi, who was the son of Agha Hossein-Gholi, the teacher of Darvish Khan. So, in a sense, the line of tradition continued from Darvish Khan to Tabrizi-zadeh. Chemirani, on the other hand, is an Iranian *tombak* player, and a student of Hossein Tehrani (1912–1974). As a *tombak* player myself, I have always been in awe of Djamshid Chemirani and his performance style. Although he has lived most of his life in diaspora, his music is deeply embedded in the tradition. Chemirani has a peculiar way of performing everything almost the same way as his master, Hossein Tehrani, a point he himself insists on (Kheradmand, 2019), but in a style that sounds very different to Tehrani. My take on his performance, in general, is that he has tried to adhere to a code of tradition as he interprets it, while expressing his non-traditional status as a performer in diaspora. The effect of this background on his style is most prominent with regards to dynamics and timbre, while the grooves themselves have more-or-less remained the same as Tehrani's.

[23] I personally interpret this music to be a traditional performance (though I am not alone in this claim), a statement that arises predominantly from my embodied and encultured listening experience. This analysis serves as an opportunity to empirically explain the unconscious basis for this interpretation through investigating one textual aspect of this performance, the rhythm. There are two reasons for choosing this piece from this performance. Firstly, the rhythm of the song is one that is intriguing to me, and has prompted my previous studies (Hafizi, 2020). Secondly, the song walks a fine line between classical and popular musics in Iran, as even though it is a part of the classical repertoire, it is still widely known by Iranians who do not listen to classical music.

2.2 Analysis

[24] The underlying groove of this song is the *6-beat shish-o-hasht* "swung" groove with a tempo ranging between 180–360 bpm (average of 265 bpm). It is generally perceived as consisting of two rhythmically equal pulses,[15] though a polyrhythmic articulation with three beats (3/4) also exists.

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15. This is evident in the interaction of the audience with performance, where they clap to each pulse.

[25] At first a Western staff transcription was attempted with three voices denoting the text, melody (*kamancheh*), and *tombak* lines. Afterwards, rhythmic motifs were extracted using the two-pulse nature of the rhythm (already shown in Table 1). There are 10 different motifs in the whole performance, as well as two 3/4 motifs that created polyrhythmic patterns with 6/8. With these tools the transcription was transformed into a spreadsheet representation. This allows an easy tracking of intersections between text, melody, and *tombak*, and facilitates an analysis of their rhythmic texture.

[26] Time in this graph moves from left to right and then starts from the next line. Each cell of the table represents three beats or one pulse; cells 9 and 9.5 constitute measure 9 of the performance, and etc. Each melodic sentence in the song lasts four measures (eight cells), with a consecutive group of four cells forming a call-and-response pair. The performance starts from cell 1, where the text begins with M1 (motif 1), the *tombak* with M3, and the *kamancheh* with M5. The rest of the spreadsheet follows the same color conventions, showing whether motifs match exactly, or are related. For example, in cell 3 the *tombak* and the text both have M1, while the *kamancheh* performs M5, a motif that is related to M1. This method visualizes texture at every pulse of the song, as well as the contribution of each line.

[27] The color codes in Figure 28 are as follows: light-blue cells represent homorhythmy between all voices, greens between text and *kamanche*, pink ones between *tombak and kamanche,* and yellow ones between *tombak and* text. The white cells consequently denote heterorhythmic instances, while the red double cells are polyrhythmic patterns. The latter is only a feature of the *tombak line*. But perhaps more interesting are the dark-blue cells, where semi-heterorhythmic textures lie. Table 1 lists all motifs with such relationships, of which three pairs exist.

Figure 28 — Spreadsheet transcription (part 1)

	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10	10,5	11	11,5	12	12,5
Tombak	.3	2	6	2	1	2	7	8	1	2	3	2	1	2	7	8	B1		3	4	1	2	7	2
Text	1	2	3	4	1	2	3		1	2	3	4	1	2	3		1	2	3	4	1	2	3	
Kamanche	5	2	6	4	5	2	3		5	2	6	4	5	2	5	5	5	2	6	4	5	2	3	

Figure 28 — part 2

	13	13,5	14	14,5	15	15,5	16	16,5	17	17,5	18	18,5	19	19,5	20	20,5	21	21,5	22	22,5	23	23,5	24	24,5	25	25,5	26	26,5	27	27,5	28	28,5
Tombak	1	2	5	2	5	2	B2		5	2	5	3	5	2	B2		5	2	B2		5	2	B2		5	2	B2		5	2	B2	
Text	1	2	1	3	.1	4	3		5	2	3	4	1	2	3		1	2	3	4	1	2	3		1	2	3	4	1	2	3	1
Kamanche	5	2	1	3	.1	4	3	10	5	2	6	4	5	2	3		5	2	6	4	5	2	5	5	5	2	6	4	5	2	3	5

Figure 28 — part 3

	29	29,5	30	30,5	31	31,5	32	32,5	33	33,5	34	34,5	35	35,5	36	36,5	37	37,5	38	38,5	39	39,5	40	40,5	41	41,5	42	42,5	43	43,5	44	44,5
Tombak	5	2	B2		5	2	9	9	5	2	B2		5	2	B2		5	2	B2		5	2	7	8	B2		5	2	B2		5	2
Text	1	2	4	8	1	2	3		1	2	5	2	1	2	3		1	2	3	4	1	2	3		1	2	3	4	1	2	3	
Kamanche	5	2	5	8	5	2	3		5	2	5	8	5	2	3		5	2	6	4	5	2	5	5	5	2	6	4	5	2	3	

Figure 28 — part 4

	45	45,5	46	46,5	47	47,5	48	48,5	49	49,5	50	50,5	51	51,5	52	52,5	53	53,5	54	54,5	55	55,5	56	56,5	57	57,5	58	58,5	59	59,5	60	60,5
Tombak	5	2	5	2	5	2	5	2	1	2	B2		5	2	5	2	1	2	1	2	1	2	5	2	5	2	B2		5	2	B2	
Text	1	2	5	8	1	2	3		1	2	5	8	1	2	3		1	2	5	8	1	2	3		1	2	5	8	1	2	3	
Kamanche	1	2	5	8	5	2	3		1	2	5	8	5	2	3		5	2	3	10	5	2	3		5	2	3	10	5	2	3	

Figure 28 — part 5

	61	61,5	62	62,5	63	63,5	64	64,5	65	65,5	66	66,5	67	67,5	68	68,5	69	69,5	70	70,5	71	71,5	72	72,5	73	73,5	74	74,5	75	75,5	76	76,5
Tombak	5	2	B2		5	2	9	9	5	2	B2		5	2	B2		5	2	5	2	B2		5	2	B2		5	2	B2		3	
Text	1	2	3	4	1	2	3		1	2	3	4	1	2	3		1	2	1	3	.1	4	3		1	2	3	4	1	2	3	
Kamanche	5	2	6	4	5	2	5	5	5	2	6	4	5	2	3		5	2	1	3	.1	4	3	10	5	2	6	4	5	2	3	

Time →

Figure 28. Spreadsheet transcription of *mahoor tasnif* performance, which can be heard here.

Motif 1	Motif 2	Motif 5
(3/8 notation)	(3/8 notation)	(3/8 notation)
Motif 5	**Motif 4**	**Motif 6**
(3/8 notation)	(3/8 notation)	(3/8 notation)

Table 1. Semi-heterorhythmic pairs.

[28] Even though there are only six motifs, their semi-heterorhythmy comprises almost one-third of the texture (46 out of 151 cells). They also form interesting patterns in the progression of the performance. For example, motif 5 appears in the *kamancheh* line on every odd measure (1, 3, 5, etc.) with only four exceptions (89%). It is always followed by motif 2, with three exceptions. Motif 2 always coincides with homorhythmy, other than six times. In all these instances—disregarding the very beginning—until measure 17, the *tombak* plays motif 1 with the exception of one polyrhythm on measure 9. From there until measure 41, the *tombak* switches to motif 5, followed by two instances of polyrhythmy. Afterwards we mostly see a 5–5 homorhythmic texture between the *tombak* and the *kamancheh*, with few exceptions. The text remains on motif 1 all throughout of the song. Table 2 show the texture of all odd measures of the performance.

[29] As another example of Chemirani's accompaniment technique, notice the *tombak* line in measures 1 to 9. Measures 3–4 and 7–8 are almost identical, while measures 1 and 5 would have also been identical if not for the entrance style. Measures 2 and 6 are of interest though, as the only difference in them is that motif 6 has been replaced by motif 3. The initial motif 6 is semi-heterorhythmic with the text and homorhythmic with *kamancheh*. It is then

tombak-kamancheh pair	# out of 37 odd measures	%	notes
1-5	7	19	semi-heterorhythmic
5-5	21	57	homorhythmic, but semi-heterorhythmic weith text
polyrhythm-5	5	14	heterorhythmic
5-1	2		*kamancheh*-text homorhythmy
1-1	1		total homorhythmy

Table 2. Texture of odd measures.

1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5
.3	2	6	2	1	2	7	8	1	2	3	2	1	2	7	8
1	2	3	4	1	2	3		1	2	3	4	1	2	3	
5	2	6	4	5	2	3		5	2	6	4	5	2	5	5

Figure 29. AB-A'B phrasing in the *tombak line*. The excerpt can be heard here.

changed to motif 3, which reverses those orders. This technique of AB-A'B (Figure 29) phrasing is common in *tombak* performances.[16]

[30] Another interesting instance happens in measures 13–14, where *tombak* and *kamancheh* mirror a homorhythmic texture with the text through their semi-heterorhythmic texture. It would have looked symmetrically perfect, if Chemirani had decided to use motif 3 instead of motif 2. But he chose to create a 1–2–5–2 combination (Figure 30) (again AB-A'B) with heterorhythmic texture instead of keeping to complete homorhythmy. Thus he switches through a 1-5 semi-heterorhythmic pairing.

13	13,5	14	14,5
1	2	5	2
1	2	1	3
5	2	1	3

Figure 30. Mirroring technique in *tombak-kamancheh* pairing. The excerpt can be heard here.

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16. The dot before motif 3 is a convection I use in all my transcriptions, which means that the beginning of the motif has been silenced. However, it is done in a manner that still conveys the same rhythmic idea. In this performance, this happens because Chemirani takes a few seconds to enter after Tabrizizadeh; he starts the motif from the middle.

[31] There are 45 instances (out of 151) in which one or three white cells (heterorhythmic texture) makes one vertical line, which again counts for almost a third of the performance. Only two of these cases coincide with semi-heterorhythmy. Therefore we can say that they account for the second third of the performance. The *tombak* is an active participant in 29 of these cells, the *kamancheh* in 25, and the text in 24; they take equal parts in the heterorhythmic texture of the performance. These instances seem to happen quite randomly, though 6–3, 7–3, and 5–3 motif pairs appear more often. Only 17 times do we not see any instance of motif 3 in at least one of the voices, though 13 of them occur at silences in the text. So, in effect, motif 3 is the most important in the construction of heterorhythmy. Total heterorhythmy only happens 10 times, while 12 more times we have *kamancheh*-text heterorhythmy plus polyrhythmy in the *tombak line*. So we find that half of this texture (heterorhythmic) occurs due to a single voice, and not as a collective; the *tombak is this voice 19 times*, the *kamancheh three times*, and twice for text. 13 of the rows in table 4 (18 out of 41) do not have motif 3 in them. Eight of these have silence in the text (13 out of 41). The other half has only two instances of 3–4–4 (*tombak*) and polyrhythm 5–3 (*kamancheh*). The rest of the time, motif 3 only appears in the text (21 out of 41). Table 3 shows most common heterorhythmic pairings of this performance, while Table 4 lists all of these instances. Figure 31 also shows the role of motif 3 in constructing heterorhythmic textures.
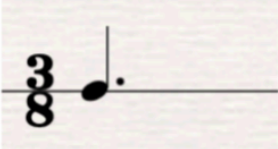

Table 3. Most common heterorhythmic pairings.

total heterorhythmy (*tombak-text-kamancheh*)	# out of 10	with polyrhythm (text-*kamancheh*)	# out of 12	*tombak* (text and *kamancheh* are homorhythmic)	# out of 19
7-3-5	2	0-10		7-3	2
8-0-5	2	3-6	5	8-0	
5-3-6	2	3-5		2-0	5
2-8-10		0-5		2-3	2
9-3-5		4-5		3-4	
9-0-5		2-8		5-3	5
2-0-10		5-3		9-3	
		8-10		9-0	
				2-8	

Table 4. All heterorhythmic instances in *mahoor tasnif*.
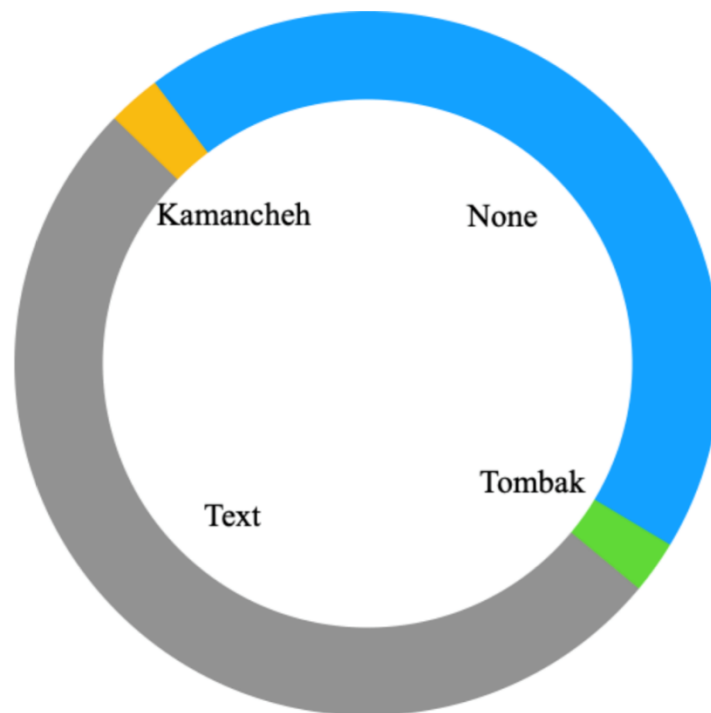
Figure 31. Recurrence of motif 3 in heterorhythmic textures.

2.4 Results

[32] Considering homorhythmic textures, all 22 *tombak-kamancheh* pairs (pink cells) are on odd measures with motif 5, which we already discussed (other than one 6–3–6 combination in measure 2). Seven out of nine *tombak*-text matches (yellow cells) also occur at odd measures with motif 1, creating a semi-heterorhythmic texture with the *kamancheh* on motif 5. Twice we have 3–3–6, at measures 6 and 10. However, the 54 (out of 151) green cells tell us that the rest of text-*kamancheh* homorhythmy tends to happen more frequently than the rest. To account for the rest of the performance, we only need to note that 34 cells have complete homorhythmy, and the last 26 are polyrhythms in *tombak* with homorhythmy in text-*kamancheh*. The latter, other than three times, only occurs at odd measures.
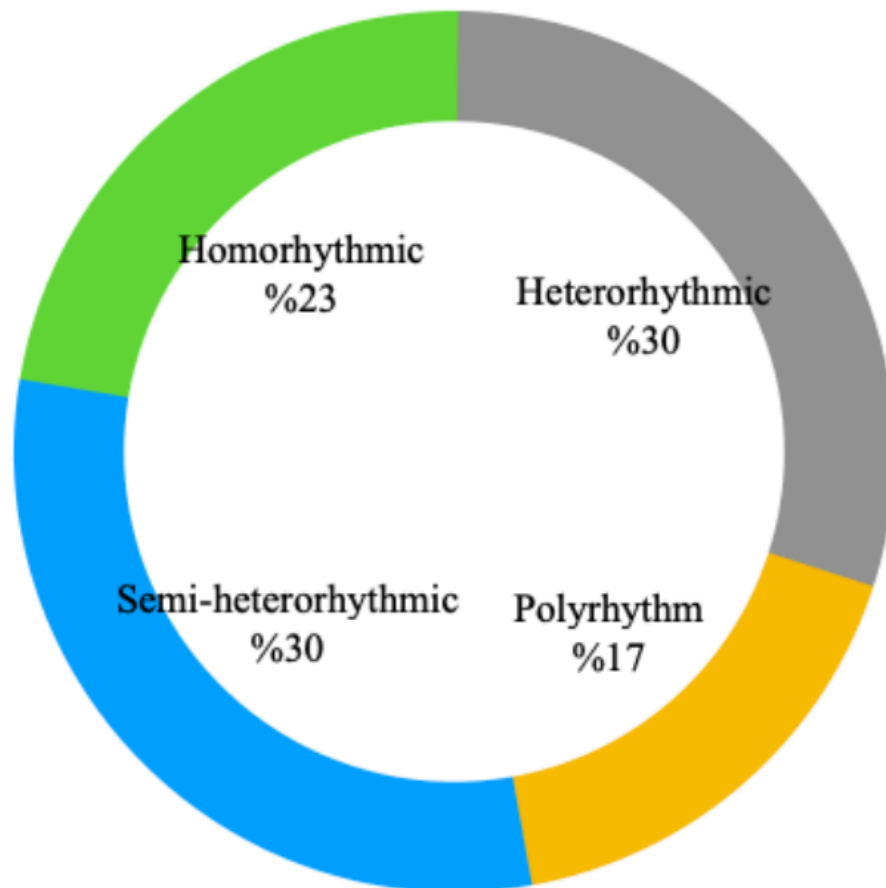

Figure 32. Rhythmic texture of the performance.

[33] The main findings of this analysis are:

- The rhythmic texture of this performance is almost equal amounts homorhythmic, heterorhythmic, and semi-heterorhythmic.

- All three voices have equal share in heterorhythmic textures.

- Motif 3 is the most important in the construction of heterorhythmy.

- Whenever the *tombak* is the only instrument creating heterorhythmy, it coincides with the other voices being homorhythmic.

- The *kamancheh* has a higher tendency to be homorhythmic with the text.

- At silences in the text, the *tombak* tends to keep the groove, or play a polyrhythm.

3. CONCLUSIONS

3.1 Historical narrative

[34] With the advent of modernity in Iran, socio-economic changes ushered in an era of change for music and musicians. Among these changes were the independence of performers from royal patronage, the elevation of the status of artists as the elite class, the rise of music intellectualism, and the re-creation of the role of composer. The economic and military influence of the Russian Empire (later the Soviet Union) and Western Europe also had an immense effect on music practices in Iran. Naser el-Din Shah was fascinated —and most likely intimated— by the military structure of these countries That was the main reason behind establishing *dar ul-funun*, the first modern school in Iran, as a military school. Therefore, the music division of the school was constructed under the premise of creating Western military bands. The biggest influence of this school on music was the adoption of Western staff notation among Iranian musicians. On a practical level, notation made it possible to record —in an economic manner— the repertoires of Iranian music; a tradition that so far had remained oral. This was around the same time that other media technologies (gramophone recordings etc.) were being disseminated in Iran. Under the influence of these tools, pedagogy of Iranian music underwent a revolution. Soon after in 1922, Vaziri released the first Iranian modern pedagogical book *dastur-e tar*, which utilized Western staff notation. Before that, Lumaire had advanced Western music theory at *dar ul-funun*, and his lectures

had been translated into a theory book. However, this book had nothing to do with Iranian music, and had no direct influence on it. From there it took Hossein Tehrani and his colleagues 40 more years to develop a training book for *tombak*. It seems that during these 40 years, *tombak* underwent many transformations. The various tombak styles of pre-modern Iran converged into one school that tried to encompass all of them. A specific aesthetic for *tombak* performance was established by Tehrani as the most prominent in Iranian music, which would later allow other schools to blossom. In this regard, Tehrani's school is considered the traditional one, even though it came about in the course of modernization.

[35] The introduction of music notation in Iran also effected composition. As mentioned in Section 2, Darvish Khan was one of the first to retake the newly re-established position of composer, as before this time musicians were usually not credited with their pieces. Purely-oral tradition and lack of proper recording technology, coupled with the low status of musicians in pre-modern Iran are some of the main factors behind this. However, with the use of Western musical notation, anyone could become a composer, disseminate their pieces, and take credit for it. According to Fayaz (2015), written tradition also brought intellectual and elite status for musicians, a term that no longer applied only to music performers, but now also to theoreticians, pedagogues, and composers. This is the era into which Hossein Tehrani was born; an era filled with new technologies of music and media.

3.2 Rhythmic texture

[36] According to gramophone recordings of the early 20th century, *tombak* accompaniment styles in Iranian music were quite limited both in timbre and technique. In this era, accompaniment was either repetitions of an ostinato (groove) with very slight variations, or melodic imitation. However, we saw in the performance of *mahoor tasnif* how complex this accompaniment has become; there are three rhythmic textures —homorhythmic, heterorhythmic and semi-heterorhythmic— that take-up equal parts of the performance, creating a complex tapestry that consists of many patterns. As Chemirani is a faithful student of Tehrani (Kheradmand, 2019), we can safely assume that for the most part this style is the traditional one brought about by Tehrani's school.

3.3 Further research

[37] One of the topics that I briefly touched upon was the itinerary of rhythms; which grooves tend to be grouped together more often? Which ones always precede each other? Is there a pattern here? My hypothesis, is that Tehrani, in trying to come-up with a new rhythmic tradition —perhaps unconsciously— drew from the tradition of orally transmitted *tasnif* songs, which are filled with rhythmic phrasing and groupings. In other words, he was using a vocal system of groove.

[38] Another topic is a more-in-depth study of *tombak* pedagogies from the times of oral tradition to the present. Such a study would tell us how each school defines their foreground and background, and about the expansion and grouping techniques of each. This would culminate in a theory of aesthetic(s) in *tombak* performance. Of interest to such research would also be a historical study of the body of the instrument, and all the physical changes it went through during modernization.

[39] Of equal interest would be a study of other schools and lineages besides Tehrani's. We already know that the *motrebi*[17] tradition utilized/es *tombak* in a different manner. Also, evidence shows that there was another line parallel to that of Tehrani with a more modern (mathematical) view of rhythm, and more abstraction of *tombak* sound. This line in contemporary times can be traced to Navid Afghah, one of the most prominent *tombak* players and theoreticians of today.

REFERENCES

Abrahamian, Ervand. 1982. *Iran Between Two Revolutions*. Princeton University Press. https://doi.org/10.1515/9781400844098

Amanat, Abbas. 1991. "The Downfall of Mirza Taqi Khan Amir Kabir and the Problem of Ministerial Authority in Qajar Iran." *International Journal of Middle East Studies* 23(4): 577–599. https://doi.org/10.1017/S0020743800023424

_____. 2017. *Iran: A Modern History*. Yale University Press.

Azadehfar, Mohammad Reza. 2004. *Rhythmic Structure in Iranian Music*. PhD diss., University of Sheffield.

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17. Urban street musicians/entertainers, regarded as lower than other musicians.

Balandina, Anna. 2007. *Contemporary Tombak Playing in Iran: An Ethnographic Experience of Practice, Interaction and Music Making*. PhD diss., University of London, Goldsmiths' College. https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.506450

Benadon, Fernando. 2007. "A Circular Plot for Rhythm Visualization and Analysis." *Music Theory Online* 13(3). http://dx.doi.org/10.30535/mto.13.3.1

Clayton, Martin. 1996. "Free rhythm: Ethnomusicology and the Study of Music without Meter." *Bulletin of the School of Oriental and African Studies* 59(2): 323–332. https://doi.org/10.1017/S0041977X00031608

_____.2008. "Toward an Ethnomusicology of Sound Experience." In *The New (Ethno)Musicologies*, edited by Henry Stobart, 135–169. Lanham, MA: Scarecrow Press. https://dro.dur.ac.uk/8716/

Clayton, Martin, Richard D. Segerm, and Udo Will. 2004. "In Time with The Music: The Concept of Entrainment and its Significance for Ethnomusicology." *ESEM CounterPoint* 1. https://dro.dur.ac.uk/8713

Chemirani, Djamchid. 1976. "Improvisation à 6/8." *Improvisations au Zarb* [CD]. France: Harmonia Mundi.

Davami, Abdullah et al. 2007. *Qajar tasnifs* [CD]. Iran: Mahoor.

Davis, Mary Ellen. 2015. "Oral History, Music Biography, and Historical Ethnomusicology." In *This Thing called Music: Essays in Honor of Bruno Nettl*, edited by Victoria Lindsay Levine and Philip V. Bohlman, 220–229. London: Rowman and Littlefield.

De Landa, Enrique Cámara. "Beyond the Staff: 'Alternative' Systems in the Graphical Representation of Organized Sound." *El Oído Pensante* 4(1): 70–96. https://www.redalyc.org/articulo.oa?id=552970704006

During, Jean. 2004. *La musique iranienne: tradition et evolution*. Editions Recherche sur les civilisations.

During, Jean et al. 1991. *The Art of Persian music*. Washington DC: Mage Publishers.

Ellingson, Ter. 1992. "Transcription." In *Ethnomusicology: an Introduction*, edited by Helen Myers, 110–152. W.W. Norton and Co.

Farhat, Hormoz. 1990. *The Dastgāh Concept in Persian Music*. Cambridge University Press. https://doi.org/10.1017/CBO9780511470233

Fatemi, Sasan. 2013. *Peydāyesh-e musiqi-ye mardom pasand dar irān: Ta'ammolī bar mafāhīm-e kelasīk, mardomī, mardom pasand* [Emergence of Popular Music in Iran: a Survey of Concepts of Classic, Folk, Popular]. Tehran: Mahoor.

Fayaz, Mohammad Reza. 2015. *Ta bar damidan-e gol-ha: motale'e-ye jame'e-shenakhti-ye musiqi dar iran az sepide-dam-e tajddod ta 1334* [A Sociological Study of Music in Iran from Dawn of Modernization to 1334]. Tehran: Soore-ye Mehr.

Hobsbawm, Eric, and Terence Ranger. 1983. *The invention of tradition*. Cambridge University Press.

Hedayat, M. Q. 1983. *Khāterāt-o-khatarāt* [Memories and Perils]. Iran: Zavvar Publications.

Helbig, Elahe. 2016. "From Narrating History to Constructing Memory: the Role of Photography in the Iranian Constitutional Revolution." In *Iran's Constitutional Revolution of 1906 and Narratives of the Enlightenment*, 48–91. Berkeley: Gingko Press.

Khaleghi, Rouhollah. 2011. *Sargozash-e musiqi-ye iran* [Chronicles of Music of Iran]. 2nd ed. Tehran: Mahoor.

_____. 2019. *Nazari be musiqi* [A Treaty on Music]. 5th ed. Tehran: Safi Ali Shah.

Kheradmand, Farid. 2019. *Tombak Method of Jamshid Chemirani*. Tehran: Mahoor.

Mallah, Ghaffar-Ali. 1989. *Sharh-e zendegani-ye ostad gholam hossein darvish* [Biography of Maestro Gholam Hossein Darvish]. Tehran: Honar va Farhang Publishing.

Nowruzi, Gholam Reza, et al. 2009. *Qajari tasnifs* [CD]. Tehran: Mahoor.

Pakshir, Pouya. 2018. *The Social and Musical Life of Tombak and Tombak Players in Iran* [thesis]. Wesleyan University. https://doi.org/10.14418/wes01.2.200

Payvar, Faramarz. 1996. *Radif-e avazi va tasnif-haye qadimi be revayate ostad Abdullah Davami* [Vocal Radif and Old Tasnifs as Interpreted by Maestro Abdullah Davami]. Tehrani: Mahoor.

Rahmanian, Dariush. 2011. "Barresi-ye nakami-ye eslahat-e irani az Amir Kabir ta emrooz" [Study of the Failure of Iranian Reforms from Amir Kabir to Today]. *Nasim-e Bidari* 3(23): 40–43. https://bit.ly/3iu2AbA

Rajabi, Bahman. 2010. *Motrebi*. On *Nazm-e vazn* [CD]. Tehran: Ava-ye Barbod.

Rice, Timothy, and Jesse Ruskin. 2012. "The Individual in Musical Ethnography." *Ethnomusicology* 56(2): 299–327. https://doi.org/10.5406/ethnomusicology.56.2.0299

Stanyek, Jason. 2014. "Forum on Transcription." *Twentieth-Century Music* 11(1): 101–161. https://doi.org/10.1017/S1478572214000024

Tehrani, Hossein. n.d. "Zarb-e reng". On *Solo Tombak* [LP]. Tehran: Ahang Rooz.

Tehrani, Hossein, et al. 2011. *Amoozesh-e tombak* [Tombak course]. Tehran: Mahoor.

Tehrani, Hossein, et al. 2017. *Hoseyn Tehrani zarbi-singing* [CD]. Tehran: Mahoor.

Tenzer, Michael. 2011. "Generalized Representations of Musical Time and Periodic Structures." *Ethnomusicology* 55(3): 369–386. https://doi.org/10.5406/ethnomusicology.55.3.0369

_____. 2017. "In Honor of What We Can't Groove to Yet." In *College Music Curricula for a New Century*, 170–190. Oxford Scholarship Online. https://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780190658397.001.0001/acprof-9780190658397-chapter-9.

Various Artists. 2016. *Old Rengs: Performances by Maestros of Qajar and First Pahlavi Eras on 78 rpm Records* [CD]. Tehran: Mahoor.