The Formation of Ruboī Meters in Terms of Musical Rhythmic Rotations

Abduvalī Abdurashidov / Academy of Maqom, Dushanbe, Tajikistan

Translated by Evan Rapport / Eugene Lang College and The New School for Jazz, New York, New York

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Abstract

In this article, the Tajik maqom master and pedagogue Abduvalī Abdurashidov approaches the problem of ruboī (a type of quatrain) versification from the standpoint of music. He takes us step-by-step through the process by which he arrives at the ruboī meters, with fascinating results that remind us of the interdependent nature of poetry and music.

Abduvalī Abdurashidov is a musician and maqomist; People’s Artist of Tajikistan; founder of the Center for Traditional Music “Navo” (1993), Academy of Maqom (2003), and School of “Shashmaqom” (2005); and recipient of the Commander medallion of the French Order of Arts and Letters (2005) and the “Dusti” (Friends) Order (2005); International Grammy award nominee (2006); and winner of national, international, and regional Shashmaqom competitions. He has participated in arts festivals and scholarly forums in Hong Kong, Germany, France, Belgium, Holland, Norway, Sweden, Great Britain, Italy, Spain, the United States, Greece, India, Iran, Pakistan, Syria, Morocco, and China. He is the author of the educational manuals The Study of Poetic and Musical Meters (Arūz and Music) (2001) and Furughi Love (Poems and Songs for Children) (2004); Dictionary of Shashmaqom Terminology (Farhang-i Tafsiri-i istilohot-i shashmaqom, 2016); Shashmaqom, 6 volumes (2016); and a number of scholarly articles. He is also one of the authors of the Shashmaqom Notebook (2007) and the Shashmaqom Encyclopedia (2009).

Evan Rapport is Associate Professor of Ethnomusicology at Eugene Lang College and The New School for Jazz. He is the author of Greeted with Smiles: Bukharian Jewish Music and Musicians in New York (Oxford University Press, 2014), about the musical life of Jewish immigrants from Central Asia, and he has published on a range of topics including settings of Persian poetry, arrangements of George Gershwin’s concert works, the idea of “ethnic music” in New York, and rap music. He is currently writing Damaged: Punk Music and America (University Press of Mississippi), a book about the musical style of punk and its relationship to American ideas of race.
Translator’s Introduction

In this article, the Tajik maqom master and pedagogue Abduvalī Abdurashidov approaches the problem of ru báo (pl. ru boiyot, a type of quatrain) versification from an unusual point of view. Prosodists have long debated the meters used for ru báo, primarily — — — — — — — —, because of the difficulty in reconciling them with the Arabic arūz versification system as first established by the 8th century philologist al-Khalīl. Abdurashidov follows the established analysis of these meters in terms of “trees.”

Abdurashidov’s innovative contribution is to approach the poetic meters from the standpoint of music. And whereas many theorists have looked to poetry for the basis of musical rhythm, Abdurashidov takes the opposite stance, positing a musical basis for the poetic meters. As a theorist and a practicing musician deeply familiar with the rhythms of the Central Asian maqom, Abdurashidov takes us step-by-step through the process by which he arrives at the ru báo meters, with fascinating results that remind us of the interdependent nature of poetry and music, especially in terms of rhythm.

The main points of Abdurashidov’s argument are as follows, divided by section:

The Usul in the Formation of Ru báo Meters (Vazns)

1. In the main section of the article, Abdurashidov designates the four basic ru báo meters:

   — — / — — / — — / — — / — — / — —
   — — / — — / — — / — — / — — / — —
   — — / — — / — — / — — / — — / — —
   — — / — — / — — / — — / — — / — —

   He arrives at these meters by starting with four variations of the ufar rhythmic cycle, represented in 6/8, constructed with modifications of the rajaz foot (rajaz matvī, or — —, and rajaz maxbun, or — —). By beginning on the fourth attack of each rhythmic cycle, transforming the first foot into three elements rather than four (i.e., a “broken” or shikasta form), and leaving the pause that occurs when stopping after thirteen syllables, the basic ru báo meters are created. A step-by-step example:

   a. Begin with the ufar rhythmic cycle using rajaz matvī:
      — — / — — / — — / — — / — — / — —

   b. Rotate the cycle, starting on the fourth attack:

   c. Transform the meter into a broken form by making the first foot three units:

   d. Leave a pause that would occur where the cycle originally began, creating a thirteen-syllable meter:
      — — / — — / — — / — — / — — / — —

Finally, we have arrived at this standard ru báo meter (hazaj musamman axrab...
2. Derivative or what Abdurashidov calls "composed" forms of these meters can be created by joining two short syllables or attacks when they occur consecutively, turning two short units into one long unit. Ultimately, there are 24 possible meters that begin with the axrab foot (—  ν —) and 6 possible meters that begin with the ashtar foot (—  ν — ), creating two distinct metrical trees or families, both trees further containing two distinct circles of related meters. To return to the above example of the standard ruboī meter — — ν / ν — — ν / ν — — ν / ν —, a derivative meter can be created by combining the first two short attacks, yielding — — — / — — ν / ν — — ν / ν —. The table in this section helpfully indicates all of the meters in their fundamental and composed forms.

The Atonin of Zarb and the Afoil of Vazn in the Ruboī

3. What seem to be the same rhythmic patterns in music and poetry are actually different, based on an analysis of atonin (syllables articulating musical rhythms, such as “nan tan-nan” for long short-long, or —  ν —) and afoil (syllables articulating poetic meters, such as fo’ilotun for —  ν —). The table in this section provides the key rhythmic formulas as poetic feet and musical patterns.

The Nature of Mizrob in the Formation of Ruboī Rhythmic Types

4. Further variations of rhythmic structures can be created by combining a long attack and a short attack, resulting in a value equivalent to a dotted-quarter note in 6/8 time. This musical variation allows for analogous variations using the overlong syllable in prosody, with its value of 1½ syllables.

Creation and Classification of Ruboī Poetic Meters

5. Unlike many other poetic forms, each four-line ruboī can contain various meters, although the variations must be contained within a metrical tree. There are three possible kinds of ruboīs: simple (every line is the same meter), compound (two, three, or four meters are used, but within one of the four circles), or mixed (two, three, or four meters are used, from two different circles, but still within one metrical tree).

Vazns of Khayyam’s Ruboīyot

6. Ruboīs written by Omar Khayyam are analyzed and employed as examples of the various possible ruboi forms. Khayyam composed using meters of the axrab family tree, and although he wrote in simple, compound, and mixed forms, most (about 70%) are in the mixed category.

The parentheses are in Abdurashidov’s text, and square-bracketed annotations are mine. The endnotes contain both Abdurashidov’s original notes and my own. I based my transliterations on the Cyrillic spellings of Persian terms, which may be unfamiliar to some readers, except with
proper names (in which case I followed common spellings or standard Library of Congress transliterations).

Terms retained in the diagrams

Mizrob: metrical elision
She`r: poem
Usul: ideal rhythmic framework, rhythmic mode (also, a method)
Vazn: poetic meter (see also bahr below)
Zarb: The specific musical rhythm corresponding to the vazn; i.e. the quarter notes and eighth notes of the zarb correspond directly with the long and short syllables in the vazn. In the term naxustzarb, zarb refers to a “beat” or syllable that can be long or short, within a metric foot.

Other terms

Arūz: versification system used by Arab poets and applied to Persian and many other types of poetry. The arūz versification system is often termed “the science of arūz” (‘ilm-i arūz), translated here variously as “arūz versification,” “the science of arūz,” or “arūz theory,” depending on context.
Bahr: In the science of arūz, bahr refers to the original, theoretical set of meters devised by al-Khalīl and others, as opposed to the meters that poets, via various modifications of the bahrs, actually use. Vazn is the term for the meters actually in use (Elwell-Sutton, 42). As Abdurashidov uses both terms, sometimes in the same sentence, the original terms are also provided as necessary.
Doira: “circle.” Here, the concentric circular diagrams are called doira, as opposed to their constituent rings, some of which are “rotations” (davr).
Davr: “rotation.” These refer to four of the rings of the “circles,” which represent rotations of a given metric pattern. Note that the first “rotation” begins in the same place as the usul and the zarb. The second rotation is rotated by one unit with respect to the first, and the third is rotated by one unit with respect to the second.
Afoil: mnemonic syllables that indicate poetic meters, such as fo`ilotun for —  —  —
Atonin: mnemonic syllables that indicate zarbs

A note on pluralization: all plurals that function as true plurals are indicated by the English “s” in the parenthetical glosses. Terms such as usul, which is treated as singular even though it is technically plural in Arabic, are glossed in this frozen plural form and then made plural again, if necessary, with an “s.”

Overall my goal was to present Abdurashidov’s detailed and technical analysis in a clear and idiomatic style that could be easily followed, and I hope that I have at least been partially successful in that respect.

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From past sources to our contemporary literature, much has appeared on the study of poetic rhythms and their unbroken connections to music (e.g., Shams-i Qays 1991; Tūsī 1992; Aminov 1988; Davronov 1987, 1991; Vahidyān Kāmyār 1993; Semyonov 1946; Toirov 1991). But a serious analysis and investigation of this issue still lies ahead.

Foreign scholars have also written serious works regarding poetics, metrical versification, and their close connections with music. They speak about various poetic meters and analyze links between music and poetry. In our opinion, we have another opportunity today for seriously considering the connections between the composition of poetic meters and music, and the principal manner of forming arūz meters in the context of musical rhythms (zarbs). Regarding the topic of this symposium [the Tajik musical genre of falak], we noted that ruboī is considered the main form of falak poetry (Azizī 2009).

In this article we are only looking at the relationship of ruboī to music; that is, the method of forming ruboī meters (vazn) in terms of musical rhythmic cycles. We also want to pursue research and analysis of many other genres, discovering fresh insights into the issue. We aim to understand exactly the basis of arūz versification and whether it really has a connection to music. If it does, what kind of connection?

After analysis, research, and extensive consideration we concluded that arūz is directly based on musical rhythms (zarbs). Essentially, arūz composition—the order and formation of prosody—is impossible to conceive without preserving and understanding the laws and rules of musical rhythms. To restate, arūz versification is subject not only to the field of literature and poetry, but also to the science of music and music theory. The science of arūz versification did not just emerge with the establishment of short and long syllables, seen in the implementation of the Arabic “fa-`a-la”⁡; there appears to be evidence that musical rhythm and rules of melody (ohang) composition through the assigning of specific signs are essential to arūz. Unfortunately, for many years arūz has only been analyzed from the perspective of poetry theorists. Arūz still should be investigated from a philological perspective as its core concepts have not been accurately defined, but music theorists can seriously and scientifically work to resolve music’s inseparable connections to versification.

Khalil ibn Ahmad—the theorist of poetry and music, the foremost scholar of the eighth century, and the founder of arūz versification—specifically developed the laws of musical rhythm using an experimental method, and then developed the theories and rules of arūz versification based on those laws. At that time music still belonged to an oral tradition and those rhythms were not communicated with written symbols. Rhythms were only represented with signs for long and short, so discussion regarding arūz was very valuable (for more detail, see Vahidyān Kāmyār 1993; Toirov 1991; Shams-i Qays 1991).

Over the course of time, as musical rhythm came to be based on the principles of arūz versification, the performance of poetic texts became one of the main ways of combining poetry
and music. Actually, imbuing musical rhythm with the specific characteristics of poetic syllables increased its artistic merit.

In music the systematic form of zarb [performed rhythms, beats, attacks] is connected to the original sense of usul [ideal rhythmic frameworks or patterns] in a manner analogous to the way “rhythm” is related to “meter”; in performance, usul determines the type of rhythm and shapes its model and measure. That is, the fundamental principle and system of musical rhythm become clear in the solidification of zarb and usul, and are seen in the formation of the arūz system. Zarb and usul are like “two parts of one complete system, which in proper operation are opposed to each other in a single dialectic” (see Frolov et al. 1989). It should be emphasized that one cannot exist without the other and in the sphere of performance zarb without usul and usul without zarb are undesirable. A complete understanding can only emerge with both of them.

Poetic meters (vazns) are also like musical rhythms (zarbs) in the construction of various rhythmic modes (usuls). That is, poetic meters too are created in the form of concrete musical usuls and become equivalent with one of its rhythmic varieties. For example, the “main” (aslī) rhythmic circles (doira)—such as mū`talifa, mujtaliba and munfarida (muttafiqa)—and their corresponding “main” (aslī) meters (bahr)—such as vofir, komil, hazaj, ramal, rajaz, mutadorik and mutagorib—are formed according to usuls in 7/8 and 4/8. “Branch” [far`ī] rhythmic circles—such as mushtabaha, muxtalifa, muntazia, muxtalita—and their corresponding “branch” meters (bahrs), including hazaj, ramal, rajaz, mu`zore`, mushokil, xafīf, mujtass, munsareh, muqtazab, asamm, garib, sarim, qalib, saqir, jadid (qarib), hamim, badil, hamid, sare`, salim and kabir, are formed according to usuls in 6/8. In this way, the three aforementioned types of musical cycles (usuls) [7/8, 4/8, and 6/8 types] were used in forming all of the rhythmic circles of arūz meters (vazn).

One of the 6/8-type usuls, widely used in such Tajik traditional music genres as shashmaqom, falak, ruboi, came to be known as ufar. From the ufar usul, four differently formed types of rhythm (zarb) are involved in the formation of all the zarb circles and the various “branch” arūz meters (bahrs). In the context of arūz theory, each one has a title, such as rajaz matvī, rajaz maxbun, rukn matvī IV, and rukn maxbun IV. The first two of those types of zarb, comprising rajaz matvī and rajaz maxbun, establish rhythmic circles that become the basis of forming the rotations of zarb and the ruboi meters (vazns).

The Usul in the Formation of Ruboi Meters (Vazns)

Here we should be reminded that there are two types of zarbs in the ufar usul, 1) rajaz matvī [— \( V \ V \ — \) and 2) rajaz maxbun [\( V \ — \ V \ — \)], which establish four “branch” rhythmic circles: two independent circles, rajaz matvī and rajaz maxbun, and two others that mix the two different zarbs, rajaz matvī maxbun [— \( V \ V \ — \ | \ V \ — \ V \ — \)] and rajaz maxbun matvī [\( V \ — \ V \ — \ | \ — \ V \ V \ — \)]. These are reflected as such in the correlation of musical zarbs:
1. *Rajaz* matvī rhythmic circle

Vazn: \[ \text{muf-ta-}^\prime\text{-i-lun/muf-ta-}^\prime\text{-i-lun/muf-ta-}^\prime\text{-i-lun/muf-ta-}^\prime\text{-i-lun} \]

Zarb: \(\frac{6}{8}\)

Usul: \(\frac{6}{8}\)

\[ \text{tan-na ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan} \]

\[ \text{bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak} \]

*Figure 1. Rajaz* matvī rhythmic circle
2. Rajaz maxbun rhythmic circle

Vazn: ٧ — ٧ —/٧ — ٧ —/٧ — ٧ —/٧ — ٧ —
ma-fo-‘i-lun/ma-fo-‘i-lun/ ma-fo-‘i-lun/ ma-fo-‘i-lun

Zarb: 6/8

Usul: 6/8

ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan
bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak

Figure 2. Rajaz maxbun rhythmic circle
3. *Rajaz matvī maxbun* rhythmic circle

**Vazn:**
```
\[\text{muf-ta-`i-lun/ma-fo-`i-lun/muf-ta-`i-lun/ma-fo-`i-lun}\]
```

**Zarb: 6/8**
```
\[\text{\ldots\ldots\ldots\ldots\ldots\ldots}\]
```

**Usul: 6/8**
```
\[\text{\ldots\ldots\ldots\ldots\ldots\ldots}\]
```

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**Figure 3.** *Rajaz matvī maxbun* rhythmic circle
4. Rajaz maxbun matvī rhythmic circle

Vazn: \[ \text{ma-fo-i-lun/muf-ta-i-lun} \]

Zarb: 6/8

Usul: 6/8

Figure 4. Rajaz maxbun matvī rhythmic circle
Each of the above rhythmic circles (doira) generate four rotations (davr) built according to each of the four attacks in the initial rhythmic quadrant [these are called naxustzarb, lit. “first beats”; the quadrants are numbered in the second concentric circle, just before the syllable “ta” in the first case]. That is, each attack in the first quadrant becomes the starting point [sarzarb] for its respective rhythmic rotations (davr 1, davr 2, etc.). Rhythmic rotations of ruboī meters (vazns) are based on the fourth rotation of the circles, as shown in the examples below:

1. **Rajaz matvī rhythmic circle, 4th rotation – rajaz makfuf**

   Vazn:  
   ![Vazn notation](image)
   Zarb: 6/8  
   ![Zarb notation](image)
   Usul: 6/8  
   ![Usul notation](image)

2. **Rajaz maxbun rhythmic circle, 4th rotation – ramal makfuf**

   Vazn:  
   ![Vazn notation](image)
   Zarb: 6/8  
   ![Zarb notation](image)
   Usul: 6/8  
   ![Usul notation](image)

3. **Rajaz matvī maxbun rhythmic circle, 4th rotation – xafif makfuf**

   Vazn:  
   ![Vazn notation](image)
   Zarb: 6/8  
   ![Zarb notation](image)
   Usul: 6/8  
   ![Usul notation](image)
4. Rajaz maxbun matvī rhythmic circle, 4th rotation – mujtass makfuf

Vazn:  

\[
\text{mus-taf-`i-lu/ fo-`i-lo-tu/ mus-taf-`i-lu/ fo-`i-lo-tu}
\]

Zarb: 6/8  

\[
\begin{array}{cccccccc}
\text{nan} & \text{tan-na} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} \\
\text{bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko-bak} \\
\end{array}
\]

Usul: 6/8  

The above rhythmic rotations [i.e., the four that have been created by starting on the fourth attack of the first foot of each meter] have come to be known by the names rajaz makfuf, ramal makfuf, xafīf makfuf, and mujtass makfuf. As we have seen, the rotations of rhythmic circles are formed from the feet [rukn] and vazns of various branch meters (bahrho-i far‘ī). It is important to bear in mind that the fourth rotation of the derivative rhythmic circles also has a “broken” [shikasta] form. In the broken form of the fourth rotation, the overall structure of the rotation is transformed, as can normally be seen in the first quadrant of the rhythmic rotation. According to the general rules for structuring rhythmic rotations, four naxustzarbs [i.e., attacks] make up each foot and four parts [i.e., quadrants] make up each rotation of rhythm (zarb) and meter (vazn). But in the broken form of the rotation these rules change. We see this in the zarb and in the first foot of the rotation, which begin with three naxustzarbs [instead of four]. This transforms the logical structure of the rhythmic rotation within its symmetrical metric formation. In accordance with this, the structural ordering of the zarb’s atonin [mnemonic for rhythm] and of the meters of the rotation’s afo`il [mnemonic for poetic meter] are also changed; so the very concept of creating a rhythmic rotation gets changed somewhat. The overt characteristics of this type of rotation in each of the two cases—the fourth rotation and its broken form—are the same; that is, within the foundation of one type of rotation, two concepts of rhythmic creation are seen. By applying the broken form of the derivative rhythmic rotations, two new types of [metrical] feet composed of three attacks are formed, named axtab [{— — - }] and axtar [{ — - - }]. These feet, being specific to the broken form of the rotation, essentially define the starting point (sarzarb) at the top of the rotations. In sum, if any meter begins with either of these two feet, it must be directly related to the broken form of one of the derivative rhythmic rotations. The broken-form circle of the fourth rotation discussed above is created as follows:
1. Rajaz matvī rhythmic circle
Broken form of 4th rotation – hazaj axrab makfuf

Vazn:

\[ \begin{array}{cccccccc}
\text{Vazn:} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} \\
\text{Usul:} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} \\
\end{array} \]

\[ \text{maf-ū-lu/ ma-f-ī-lu/ ma-f-ī-lu/ ma-f-ī-lu/ ma-fo-ī-lu/ ma} \]

\[ \text{Zarb: 6/8} \]

\[ \text{nan tan-na ta-nan tan-na ta-nan tan-na ta-nan tan-na ta} \]

\[ \text{bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko} \]

Usul: 6/8

\[ \text{Usul: 6/8} \]

\[ \text{bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko} \]

2. Rajaz maxbun rhythmic circle
Broken form of 4th rotation – hazaj ashtar maqbuz

Vazn:

\[ \begin{array}{cccccccc}
\text{Vazn:} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} \\
\text{Usul:} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} \\
\end{array} \]

\[ \text{fo 'i-lun/ ma-f-ī-lun/ ma-f-ī-lun/ ma-f-ī-lun/ ma-fo-ī-lun/ ma} \]

\[ \text{Zarb: 6/8} \]

\[ \text{nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan ta} \]

\[ \text{bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko} \]

Usul: 6/8

\[ \text{Usul: 6/8} \]

\[ \text{bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko} \]

3. Rajaz matvī maxbun rhythmic circle
Broken form of 4th rotation – hazaj ashtar makfuf maqbuz

Vazn:

\[ \begin{array}{cccccccc}
\text{Vazn:} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} \\
\text{Usul:} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} & \text{V} \\
\end{array} \]

\[ \text{fo 'i-lun/ ma-f-ī-lu/ ma-f-ī-lu/ ma-f-ī-lu/ ma-fo-ī-lu/ ma} \]

\[ \text{Zarb: 6/8} \]

\[ \text{nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan ta} \]

\[ \text{bak bum-ba-ko-bak bum-ba-ko-bak humming} \]

Usul: 6/8

\[ \text{Usul: 6/8} \]
4. *Rajaz maxbun matvī* rhythmic circle

Broken form of 4<sup>th</sup> rotation – *hazaj axrab maqbuz makfuf*

**Vazn:**

\[
\begin{array}{cccccccc}
\text{maf-} & \text{`ū-lu/ma-fo-} & \text{i-lun/ma-fo} & \text{`i-lu/ ma-fo} & \text{i-lun/ma}\\
\end{array}
\]

**Zarb:** 6/8

\[
\begin{array}{cccccccc}
\text{nan tan-na} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} & \text{ta-nan} \\
\end{array}
\]

**Usul:** 6/8

\[
\begin{array}{cccccccc}
\text{bak bum-ba-ko-bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko-bak} & \text{bum-ba-ko} \\
\end{array}
\]

As we can see, the broken forms of the rhythmic rotations generate only *hazaj* metrical types (*vazns* of the *hazaj bahr*). That is, the meters (*vazns*) of the various “branch” *hazaj* types (*bahr*s) are grounded in the form of the fourth rotations of the circles discussed above. The formation of the *rubā‘ī*’s *zarb* rotations and meters (*vazns*) can also be seen in this context.

According to the rules of musical rhythm, three types of basic *asāli* rhythmic “pauses” (*ist*) [or rests, caesuras, endings] appear in the aforementioned rotations: *maqbuz*, *mahzuf*, and *majbub*. That is, only the feet where the final element (syllable) is long establish basic “pauses” in the rhythmic rotation. The *rubā‘ī*’s *zarb* rotations and meters (*vazns*) are constructed with rhythmic pauses of the *majbub*\(^{10}\) [\(\text{V} \rightarrow\)] type. [Note the first and fourth diagrams in the following pages, which depict the main *rubā‘ī* meters: *hazaj axrab makfuf majbub* (\(-- \text{V}/\text{V} \rightarrow \text{V}/\text{V} \rightarrow \text{V}/\text{V} \rightarrow \text{V}/\text{V} \rightarrow\)) and *hazaj axrab maqbuz makfuf majbub* (\(-- \text{V}/\text{V} \rightarrow \text{V} \rightarrow \text{V}/\text{V} \rightarrow \text{V}/\text{V} \rightarrow\)).
1. *Rajaz matvī* rhythmic circle

Broken form of 4th rotation: *hazaj axrab makfuf*

Rhythmic pause: *majbub*

The *hazaj axrab makfuf majbub* rotation

Vazn:

\[
\text{maf-ū-lu / ma-fo- ī-lu/ma-fo- ī-lu/fa-`al}
\]

Zarb: 6/8

\[
\text{nan tan-na ta-nan tan-na ta-nan tan-na ta-nan}
\]

Usul: 6/8

\[
\text{bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak}
\]

*Figure 5.* The *hazaj axrab makfuf majbub* rotation
2. **Rajaz maxbun** rhythmic circle

Broken form of 4th rotation: **hazaj ashtar maqbuz**

Rhythmic pause: **majbub**

The **hazaj ashtar maqbuz majbub** rotation

Vazn:

```
fo-'i'-lun/ma-fo-'i'-lun/ma-fo-'i'-lun/fa-'al
```

Zarb: 6/8

```
 nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan
```

Usul: 6/8

```
bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak
```

![Figure 6. The hazaj ashtar maqbuz majbub rotation](image-url)
3. Rajaz matvī maxbun rhythmic circle
Broken form of 4th rotation: hazaj ashtar makfuf maqbus
Rhythmic pause: majbub

The hazaj ashtar makfuf maqbus majbub rotation

Vazn:

fo-‘i-lun/ ma-fo-‘i-lu/ ma-fo-‘i-lun/fa-‘al

Zarb: 6/8

Usul: 6/8

nan ta-nan ta-nan tan-na ta-nan ta-nan ta-nan

bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak

Figure 7. The hazaj ashtar makfuf maqbus majbub rotation
4. Rajaz maxbun matvī rhythmic circle
Broken form of rotation 4: hazaj axrab maqbuz makfuf
Rhythmic pause: majbub

The hazaj axrab maqbuz makfuf majbub rotation

Vazn:

```
maf-`ū-lu/ ma-fo-`i-lun/ma-fo- `ī-lu/fa-`al
```

Zarb: 6/8
```
\[1\] \[1\] \[1\] \[1\] \[1\] \[1\] \[1\] \[1\]
\[1\] \[1\] \[1\] \[1\] \[1\] \[1\] \[1\] \[1\]
\[1\] \[1\] \[1\] \[1\] \[1\] \[1\] \[1\] \[1\]
```

Usul: 6/8
```
nan tan-na ta-nan ta-nan ta-nan ta-nan ta-nan
```
bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak bum-ba-ko-bak
```

Figure 8. The hazaj axrab maqbuz makfuf majbub rotation
In this way, four variously named rhythmic rotations of ruboī meters (vazn) are produced. Two of them start with the axrab zarb [― — ∀] and are named as such: 1) axrab makfuf majbub and 2) axrab maqbuz makfuf majbub. The two others start with the ashtar zarb [― ∀ —] and are named as such: 1) ashtar makfuf maqbuz majbub and 2) ashtar maqbuz majbub. The rotations which start with the axrab zarb have become the basis of 24 different types of ruboī meters, which in all establish an independent axrab “tree.” Rotations which start with the ashtar zarb form the basis of six other ruboī meters, establishing their own independent ashtar tree. So the four rhythmic rotations and ruboī meters (vazns) create two general trees, the axrab tree and the ashtar tree, covering a total of 30 different ruboī meters. [These will be detailed in the following table. Note that each meter in the table counts as two possible meters, with two options for the final unit: long (—) or overlong (~).]

The number of resulting meters varies according to each rotation. For example, the axrabi makfufi majbub rotation consists of 16 types of vazn within the whole axrab tree of 24 types [this takes into account the 8 types in the rotation axrab maqbuz makfuf majbub]; whereas the two ashtar rhythmic rotations neatly build a total of 6 types of vazn in their own tree, including the two types of vazn seen in the ashtari maqbuzi majbub rotation.

The main method for expanding and forming all types of ruboī meters within their respective rhythmic rotations is through joining the short naxustzarbs [short syllables or attacks]. It should be reiterated that ruboī meters (like other kinds of poetic meters) consist of those that are “fundamental” (asosī) and those that are “composed” [soxtashuda, hosilshuda]. For example, in the context of the ruboī rotations, fundamental metric types are normally created without changes of zarb. By taking two types of rhythmic pauses or endings (ist) in the rotations majbub [∀ —] and ahtam [∀ ~], eight fundamental ruboī meters are formed, four of them belonging to the axrab tree and four others to the ashtar tree. All of the other ruboī vazns, being included in the composed-meters type, generate metrical types through the joining of their naxustzarbs [short syllables or attacks]. In considering the four types of rhythmic pauses or endings (ist) of fundamental and composed ruboī rotations, including majbub [∀ —] and ahtam [∀ ~], and abtar [—] and azall [~], these ruboī vazn types generate a total of 22 meters, of which twenty are connected with the axrab tree and only two with the ashtar tree. Thus, the axrab tree has a total of 24 meters, four of them fundamental and twenty of them composed. The ashtar tree has a total of six meters, four of them fundamental and only two of them composed, as shown in this chart:
Axrab tree

I. Axrab makfuf majbub rotation

A. Fundamental meter (vazn)
1. hazaj musamman axrab makfuf majbub /or ahtam/
   — — — — — — — — — — — — — — — — — / / — or ~

B. Composed meters
1. hazaj musamman axrab makfuf abtar /or azall/
   — — — — — — — — — — — — — — — — — / — or ~
2. hazaj musamman axrab majbub /or ahtam/
   — — — — — — — — — — — — — — — — — / — or ~
3. hazaj musamman axram axrab makfuf majbub (or ahtam)
   — — — — — — — — — — — — — — — — — / — or ~
4. hazaj musamman axrab muxannaq abtar (or azall)
   — — — — — — — — — — — — — — — — — / — or ~
5. hazaj musamman axram axrab abtar (or azall)
   — — — — — — — — — — — — — — — — — / — or ~
6. hazaj musamman axram muxannaq axrab majbub (or ahtam)
   — — — — — — — — — — — — — — — — — / — or ~
7. hazaj musamman axram muxannaq abtar (or azall)
   — — — — — — — — — — — — — — — — — / — or ~

II. Axrab maqbuq makfuf majbub rotation

A. Fundamental meter
1. hazaj musamman axrab maqbuq makfuf majbub (or ahtam)
   — — — — — — — — — — — — — — — — — / — or ~

B. Composed meters
1. hazaj musamman axrab maqbuq abtar (or azall)
   — — — — — — — — — — — — — — — — — / — or ~
2. hazaj musamman axram ashtar makfuf majbub (or ahtam)
   — — — — — — — — — — — — — — — — — / — or ~
3. hazaj musamman axram ashtar abtar (or azall)
   — — — — — — — — — — — — — — — — — / — or ~
Ashtar tree

I. Ashtar makfuf maqbuz majbub rotation

A. Fundamental meter
   1. hazaj musamman ashtar makfuf maqbuz majbub (or ahtam)
      \[\text{or} \quad \text{ahtam} \]
      \[\text{or} \quad \text{ahtam} \]

B. Composed meter
   1. hazaj musamman ashtar majbub
      \[\text{or} \quad \text{ahtam} \]

II. Ashtar maqbuz majbub rotations

A. Fundamental meter
   1. hazaj musamman ashtar maqbuz majbub (or ahtam)
      \[\text{or} \quad \text{ahtam} \]

B. Composed meters are not found in the above rotation.

Similarly, it must be recalled that, among the composed types of meters, other meters too are formed on the basis of the axrab rhythmic rotations. In arūz theory, it is customary to group the twelve rubōī meters with an axram foot [— — — ] under the axram tree heading. In fact, with respect to the axrab rhythmic rotations, twelve meters appear with the axrab foot and twelve others with the axram foot. Perhaps this is the reason that, at first, the rubōī meters (vazns) have been separated into axrab and axram trees [as in the conventional analysis]. If we look at the rules for building zarb rotations and rubōī meters however, we will see that rubōī meters also begin with the axram foot. But here it should be noted that this [axram] foot is related to composed meter types and, according to the rules of rhythm, can never create its own tree. For in fact it [the axram foot] does not have its own independent rhythmic rotation; rather, the axram foot takes shape in the context of two axrab rhythmic rotations [axrab makfuf majbub and axrab maqbuz makfuf majbub] and is, as such, considered part of the composed meters (vazns). Now in order to confirm the aforementioned types of fundamental and composed rubōī meters (vazns) in terms of their trees and rhythmic rotations, recall:
Axrab Tree

I. Axrabi makfuf majbub rotation

A. Fundamental rhythm (zarb) and meter (vazn)

1. Axrab makfuf majbub and ahtam

Vazn:  
<table>
<thead>
<tr>
<th></th>
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<tr>
<td></td>
<td>V/</td>
<td>V-</td>
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<td>V/</td>
<td>V-</td>
</tr>
<tr>
<td></td>
<td>岁-lu/ma-fo-‘i-lu/ ma-fo-‘i-lu/ fa-al or fa-‘ul</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zarb: 6/8

nan tan-na ta-nan tan-na ta-nan ta-nan ta-nan ta-nin

B. Composed rhythm and meters

i. With two short syllables/attacks (naxustzarbs) joined

1. Axrab makfuf abtar and azall

Vazn:  
<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>V/</td>
<td>V-</td>
<td>V-</td>
<td>V-</td>
<td>V/</td>
<td>V-</td>
</tr>
<tr>
<td></td>
<td>岁-lu/ma-fo-‘i-lu/ ma-fo-‘i-lu/ ‘i lun/ fa‘ or fo‘</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zarb: 6/8

nan tan-na ta-nan tan-na ta-nan ta-nan ta-nan ta-nin

2. Axrab majbub and ahtam

Vazn:  
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<td>V/</td>
<td>V-</td>
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<td>V/</td>
<td>V-</td>
</tr>
<tr>
<td></td>
<td>岁-lu/ma-fo-‘i-lu/ ma-fo-‘i-lu/ ma-fo-‘i-lu/ fa-al or fa-‘ul</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zarb: 6/8

nan tan-na ta-nan tan-na ta-nan ta-nan ta-nan ta-nin
3. Axram axrab makfuf majbub and ahtam

Vazn:  
\[ \begin{align*} 
\text{m} & \quad \text{m} \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \quad \text{m} \\
\end{align*} \]

\[ \text{Zarb: } 6/8 \]

ii. With four short syllables/attacks (naxustzarbs) joined

1. Axrab muxannaq abtar and azall

Vazn:  
\[ \begin{align*} 
\text{m} & \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \\
\end{align*} \]

\[ \text{Zarb: } 6/8 \]

2. Axram axrab abtar and azall

Vazn:  
\[ \begin{align*} 
\text{m} & \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \\
\end{align*} \]

\[ \text{Zarb: } 6/8 \]

3. Axram muxannaq axrab majbub and ahtam

Vazn:  
\[ \begin{align*} 
\text{m} & \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \\
\text{m} & \quad \text{m} \quad \text{m} \\
\end{align*} \]

\[ \text{Zarb: } 6/8 \]
iii. With six short syllables/attacks (naxustzarbs) joined

1. Axram muxannaq abtar and azall

Vazn:  
\[
\text{maf `ū- lun/maf `ū- lun/maf `ū- lun/ fa` or fo`}
\]

Zarb: 6/8

\[
\text{nan tan-nan-nan tan-nan tan-nan nan nin}
\]

II. Axrab maqbus makfuf majbub rotation

A. Fundamental rhythm and meter

1. Axrab maqbus makfuf majbub and ahtam

Vazn:  
\[
\text{maf `ū- lu/ma-fo-`ī-lun/ma-fo-`ī-lun/fa-`al or fa-`ūl}
\]

Zarb: 6/8

\[
\text{nan tan-na ta-nan ta-nan ta-nan ta-nan ta-nan nin}
\]

B. Composed rhythm and meters

i. With two short syllables/attacks joined

1. Axrab maqbus abtar and azall

Vazn:  
\[
\text{maf `ū- lu/ma-fo-`ī-lun/ma-fo-`ī-lun/ fa` or fo`}
\]

Zarb: 6/8

\[
\text{nan tan-na ta-nan ta-nan ta-nan ta-nan ta-nan nin}
\]
2. Axram ashtar makfuf majbub and ahtam

Vazn:  

maf-`ū- lun/ fo-`i-lun/ ma-fo-`ī- lu/fal al or fa-`ūl

Zarb: 6/8  

nan tan-nan-nan ta-nan ta-nan ta-nan ta-nan     ta-nin

ii. With four short syllables/attacks joined

1. Axram ashtar abtal and azall

Vazn:  

maf-`ū- lun/ fo-`i-lun/ ma-fo-`ī- lu/ fal al or fal

Zarb: 6/8  

nan tan-nan-nan ta-nan ta-nan ta-nan ta-nan tan-nan   ta-nin

Ashtar Tree

I. Ashtar makfuf maqbus majbub rotation

A. Fundamental rhythm and meter

1. Axhtar makfuf maqbus majbub and ahtam

Vazn:  

fo-`i-lun/ ma-fo-`ī- lu/ ma-fo-`ī- lun/fal al or fal`ūl

Zarb: 6/8  

nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan  ta-nan ta-nan  ta-nin
B. Composed rhythm and meters

i. With two short syllables/attacks joined

1. Ashtar majbub and ahtam

Vazn: — ṣ—/ ṣ— — —/ — ṣ—/ ṣ— ṣ—

fo-’i-lun/ ma-fo-’i- lun/ fo- ’i-lun/fa-’al or fa-’ül

Zarb: 6/8

nan ta-nan ta-nan tan-nan- nan ta-nan ta-nan ta-nin

II. Ashtar maqbus majbub rotation

A. Fundamental rhythm and meter

1. Ashtar maqbus majbub and ahtam

Vazn: — ṣ—/ ṣ— ṣ—/ ṣ— ṣ—/ ṣ— ṣ—

fo-’i-lun/ ma-fo-’i-lun/ma-fo- ’i-lun/fa-’al or fa-’ül

Zarb: 6/8

nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nin

B. Composed rhythm and meters are not found in this rotation, because two short syllables/attacks (naxustzarbs) do not come in succession.
As the above examples show, all of the rhythmic rotations and ruboī meters are created from thirteen long or short units of syllable/attack (naxustzarb): seven long ones (♩ - quarter) and six short (♩ - eighth). Four different ruboī rotations are also varied such that the function of the seven long and six short syllable/attack units is seen in each one. In the context of creating the rhythm and meters of the ruboī, each of the naxustzarbs has the responsibility for establishing the essential compositional unit. This point pertains mainly to the fundamental rhythms and meters of the ruboī, because, in the context of rhythmic rotations, they are formed without changes, and each of the naxustzarbs acts essentially as an independent compositional unit.

With respect to other ruboī meters, including the composed rhythms and meters and especially with respect to the short syllables/attacks, the independence of the compositional unit sometimes gets lost; normally this is seen in the context of elision (vaslshavī). That is, short naxustzarbs that come consecutively in the structure of a rhythmic rotation normally have the possibility of being joined together. In this case, two short, essentially independent naxustzarbs units connect to each other to establish one, essentially independent, long unit. As a result, two essentially independent units become transformed into one essentially independent unit and determine one compositional unit in all. For this reason, in composed ruboī meters the structural units are fewer. For example, in the context of the rhythmic rotation axrab mafjud majbud, the number of composed units is as few as 10, in the rotation axrab maqbus makfuf majbud, as few as 11 units, and in the rotation ashtar mafjud maqbus majbud, as few as 12 units. Only in the ashtar maqbus majbud rotation, which has no changes, does the number of structural units remain at 13. For in this rotation the short naxustzarbs are not consecutive but rather come in between the long beats; the short naxustzarbs are not elided and different vazns are not produced.

The long and short naxustzarbs in the zarb rotations are built with their own special atonin [mnemonics] according to the different examples, with the long naxustzarb as “tan,” “nan,” and the short naxustzarb as “ta” and “na.” In the case of composed meters (vazns), two naxustzarbs joined together form one long naxustzarb unit, “tan” or “nan.”

The Atonin of Zarb and the Afoil of Vazn in the Ruboī

Since zarb and vazn are directly related, they complement one another other in the concept of forming compositions in arūz meters. Indeed it is impossible to comprehend the creation of arūz meters—including ruboī meters—if either zarb or vazn are left out. Although metrical poetry and their afoil formulas [mnemonic syllables that indicate poetic meters, such as fo`ilotun for — ♩ — — ] are well known, many questions continually arise to which we still have not found concrete answers. For example, poetic feet like axrab, axram, and ashtar are formed both in the beginning and in the middle of poetic meters (including those of the ruboī) while maintaining similar afoil formulas in either position.

Take, for example, axrab - maf-ʻū-lu [— — ♩], axram - maf-ʻū-lun [— — —], and ashtar - fo-ʻi-lun [— ♩ —]. These are read/recited (xondan) the same way in the beginning and in the middle, and their differences in terms of afoil syllables are actually imperceptible. However, in terms of zarb and the conceptual underpinning of the atonin, these feet differ in each of the two positions. [Atonin syllables are similar formulas for the articulation of rhythmic patterns, such as “nan tan-
nan” for long short-long, or — V —.] For example, the atonin of the axrab foot is read “nan-tan-nan” in both the initial and medial positions. Similarly for the atonin of the axram and ashtar feet: axram is read “nan-tan-nan” and ashtar, “nan-tan-na,” in both initial and medial positions. At first, it seems that the first part of the feet, with the atonin reading “tan” or “nan,” is what makes the distinction and that is all. But in fact, it is very important whether these feet begin with “tan” or “nan,” because their creation in terms of this or that foot is directly related to the rules of forming zarb rotations and poetic meters. For example, the axrab foot that comes in the initial position is different from the axrab foot that comes in the middle, because it is based on the broken form of rotation IV—rajaz makfuf—the main afoil and atonin for which are mus-taf-‘i-lu and “nan-tan-na-ta” respectively. In the case of the broken foot of rajaz makfuf, one final short syllable is removed, and as a result the foot becomes the axrab of hazaj, as established in its afoil and atonin: its afoil goes from mus-taf-‘i to maf-‘ū-lu, while its atonin remains unchanged. With only one attack/syllable (naxustzarb) removed at its end, [the foot] acquires a different structure; i.e. its atonin takes the form nan-tan-na. The axrab foot that comes in the middle of the meters results from removing the first part of the makfuf foot, that is, removing the first unit of ma-fo-‘i-lu leaves fo-‘i-lu, which takes on the form maf-‘ū-lu. In atonin terms, the removal of a short initial attack/syllable (naxustzarb) transforms “ta-nan-tan-na” into “nan-tan-na.” In other words, the axrab foot is formed in two ways. And for this reason, there are differences between them, and these differences can only be seen through the atonin of the zarb and its [the atonin’s] establishment in terms of the structure of ruboī rotations.

These principles also apply to the feet of axram and ashtar. That is, although the axrab, axram, and ashtar feet are read the same way in metrical afoil, they are different from each other in terms of rhythmic atonin. In fact, in āriz̀ versification the two cases of the axram foot have been previously identified: at the start of meters this foot is called axram, and in the middle, muxannaq or taxnïq. That is, in this case, the conceptual underpinning of the atonin of the zarb is identified with different terms, the atonin of “nan-tan-nan” under the heading of axial, and “nan-tan-nan” under the heading “muxannaq.

But the atonin of other feet, such as axrab and ashtar, have been represented with one name in both cases. This table shows the feet of ruboī meters correlated with metrical afoil and rhythmic atonin:

**Table 1. Ruboī feet correlated with metrical afoil and rhythmic atonin.**

<table>
<thead>
<tr>
<th>No</th>
<th>Name of foot</th>
<th>Place of the foot in the meters</th>
<th>Formation and metrical analog in rhythm atonin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Axrab</td>
<td>beginning and middle</td>
<td>maf - ‘ū -lu</td>
</tr>
<tr>
<td></td>
<td>— — V</td>
<td></td>
<td>6/8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>nan</td>
</tr>
<tr>
<td>2</td>
<td>Axram</td>
<td>a) beginning</td>
<td>maf - ‘ū-lun</td>
</tr>
<tr>
<td></td>
<td>— — —</td>
<td></td>
<td>6/8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>nan</td>
</tr>
<tr>
<td>No.</td>
<td>Piece</td>
<td>Section</td>
<td>Meter</td>
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<td>-----</td>
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<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>3</td>
<td><em>Muxannaq</em></td>
<td>b) middle</td>
<td>6/8</td>
</tr>
<tr>
<td>4</td>
<td><em>Ashtar</em></td>
<td>beginning and middle</td>
<td>6/8</td>
</tr>
<tr>
<td>5</td>
<td><em>Makfuf</em></td>
<td>middle</td>
<td>6/8</td>
</tr>
<tr>
<td>6</td>
<td><em>Solim</em></td>
<td>middle</td>
<td>6/8</td>
</tr>
<tr>
<td>7</td>
<td><em>Maqbuz</em></td>
<td>middle</td>
<td>6/8</td>
</tr>
<tr>
<td>8</td>
<td><em>Majbub</em></td>
<td>end</td>
<td>6/8</td>
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<td><em>Ahtam</em></td>
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<td>6/8</td>
</tr>
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<td><em>Abtar</em></td>
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</tr>
<tr>
<td>11</td>
<td><em>Azall</em></td>
<td>end</td>
<td>6/8</td>
</tr>
</tbody>
</table>
The Nature of Mizrob in the Formation of Ruboī Rhythmic Types

While the formation of the traditional Tajik system of musical rhythm partakes equally of usul and zarb, the nature of mizrob [rhythmic structures and their variants, formed by metrical elision] is special. At its core, the metrical elision (mizrob) is determined on the basis of the system of musical rhythm [zarb] and all of its various types are established according to rhythmic proportions. If in the context of music mizrob implies a broad notion, in the context of zarb and poetic meters, including ruboī meters, only one essential characteristic becomes prominent: the joining of one long naxustzarb with one short one. That is, mizrob determines the essential characteristics of all types of poetic rhythmic construction, without affecting the poem’s fundamental metrical structure or changing the poetic meter.

The mizrob, being grounded in the fundamental and composed ruboī meters and zarbs, determine the many possibilities and varieties of their rhythms (ritmika). In fact, if we pay attention to the ruboī texts and their rhythmic structures, we know that the performance of one of the mizrob types is used in each case. And if, in the context of the zarb of the poetic meter, elision of long and short naxustzarbs is seen in the mizrobs, there will be elision of long and short syllables in the poem; mizrob also exists according to the structure of syllables whose value consists of 1½ syllables [“overlong” syllables]; for example, the words “guft,” “bor,” “yor,” “ast,” “dast,” etc.

Thus it must be noted that mizrob are usually built on the basis of the meter’s zarb and its particular atonin, including the short naxustzarb with “ta” or “na,” and the long one with “tan” or “nan.” Mizrob is the only context in which one long and one short naxustzarb are joined, in which case the two units connected together (♩♩) are defined by atonin “ton” or “non” (and/or “tin” or “nin” at the end).

Thus we see poetic mizrob types formed in one of the zarbs and fundamental meters of the ruboī: axrab makfuf majbub (or axrab makfuf ahtam). Lines from the ruboiyot of Omar Khayyam are used as examples:
Hazaj musamman axrab makfuf majbub (or ahtam)

I. Basic mizrob

She`r:
Maĩ-ro- na-xu-rad-mar-du-mi-do -no- ki-xu-rad?
As- ro- ri-a- zal-ro- na-tu-do -ni- vu-na-man
Vazn:
___ ___ \y/ \y ___ ___ \y/ \y ___ ___ \y/ \y ___
maf-`ũ- lu/ma-fo- `ĩ- lu/ma-fo -`ũ lu/fa-`al
Zarb: 6/8

II. Connected mizrobs

A. With two connected naxustzarbs

1. Connection of naxustzarbs 10 and 11

She`r:
Gám- ro- zi-ja-hon-ĩak-sa-ra-bar-doš -ta- me
Az - xo- ki-da-ri- maĩ-ka-da-jũ- ĵed -ma- ro
Vazn:
___ ___ \y/ \y ___ ___ \y/ \y ___ ___ \y/ \y ___
maf -`ũ- lu/ma- fo -`ũ- lu/ma- fo-`ũ- lu/ fa-`al
Zarb: 6/8

Ethnomusicology Translations, no. 6 (2017)
2. Connection of *naxustzarbs* 6 and 7

**She’r:**

Az- raf-ta-ga-lam- hej -di-gar- gun-na-ša-vad
O- qil-ba-ĉi-um- med -da-rin- kūh-na-sa-ro

**Vazn:**

_ _ _ ∨/ ∨ _ _ _ ∨/ ∨ _ _ _ ∨/ ∨ _

maf -`ū- lu/ma-fo -`i- lu/ ma-fo-`i- lu/ fa-`al

**Zarb:**

6/8

nan tan- na ta-nan tan-na ta-nan tan-na ta-nan

**Mizrob:**

6/8

nan tan- na ta-nan tan-na ta-nan ta-nan tan-na ta-nan

3. Connection of *naxustzarbs* 2 and 3

**She’r:**

Bar- dahr -ma-kun-tak-īa-ki-dav-ro-ni- fa-lak
MaĪ- nūš -ba-har-mah-fi-lu-har-an-ju- ma-ne

**Vazn:**

_ _ _ ∨/ ∨ _ _ _ ∨/ ∨ _ _ _ ∨/ ∨ _

maf -`ū- lu/ma-fo -`i-lu/ ma-fo-`i- lu/ fa-`al

**Zarb:**

6/8

nan tan-na ta-nan tan-na ta-nan tan-na ta-nan

**Mizrob:**

6/8

nan ton ta-nan tan-na ta-nan ta-nan ta-nan ta-nan
B. With four connected units

1. Connection of naxustarbs 6,7 and 10,11

She`r: Sar -riš-ta-ǐi-as- ror -na-do -nist -ka-se
Az -bo -da-ču-non-mast -ni-gah-dor -ma-ro

Vazn: — — 流转/流转 — — 流转/流转 — — 流转/流转 — —
maff`ū- lu/ma-fo- `ī -lu/ma-fo-`ī -lu/ fa`al

nan tan-na ta-nan tan-na ta-nan tan-na ta-nan tan-na ta-nan

nan tan-na ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan

2. Connection of naxustarbs 2,3 and 10,11

She`r: Bin-hand -ǐa-ke -to -bi-ra-bo-ǐand- di-gar
Pas-farq -mi-ǐo -nǐ -ma-nu-tu-čist- bi-gū?

Vazn: — — 流转/流转 — — 流转/流转 — — 流转/流转 — —
maff`ū- lu/ma-fo- `ī -lu/ ma-fo-`ī -lu/ fa`al

nan tan-na ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan ta-nan

nan ton ta-nan ta-nan ta-nan ton ta-nan
3. Connection of naxustzarbs 2,3 and 6,7

She`r:
To-čand -ma-ro-dard -di-had-so-qi-şi-umr
Vazn-hej -ka-se-niz -du-gū-šam-na-šu-nud

Vazn: | | | | | | | | |
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maf-`ū- lu/ma-fo-`ī- lu/ma-fo-`ī- lu/ma-fo-`al or fa`al

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nan tan-na ta-nan tan-na ta-nan tan-na ta-nin

Mizrob: | | | | | | | | |
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nan ton ta-nan ton ta-nan ta-nan ta-nin

C. With six connected naxustzarbs

1. Connection of naxustzarbs 2,3 and 6,7 and 10,11

She`r:
Bis-īor -ma-xūr-foš -ma-kun-vird -ma -soz
Kam-mond -zi-as- ror -ki-maf-hum -na -šud

Vazn: | | | | | | | | |
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maf-`ū- lu/ma-fo-`ī- lu/ma-fo-`ī- lu/ma-fo-`al or fa`ul

Zarb: | | | | | | | | |
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nan tan-na ta-nan tan-na ta-nan ta-nan ta-nin

Mizrob: | | | | | | | | |
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</table>
nan ton ta-nan ton ta-nan ton ta-nan ta-nin

As the different examples demonstrate, mizrob—being formed from rhythmic rotations—is based on the composition of poetic meters and defines the various rhythmic forms the poem can take, without disturbing the poem’s metric structure. If mizrob, grounded in zarb and poetic meters, determines other types of rhythmic formation, the poem itself can be created on the basis of existing mizrobs. In other words, the possibilities of poetic rhythm directly depend on the mizrobs that can be established.

Similarly it should be noted that in terms of mizrobs—that is, the joining of long and short naxustzarbs—the overall quantity of poetry’s zarb and vazns is never reduced. That is, if in the basic mizrob (as in the fundamental zarb and meter) poetic syllables establish thirteen units, in the connected mizrobs (or those than have been joined), poetic syllables are formed in as few as
seven units. For example, in the fundamental metric ground and composed rotations *axbar makfuf majbub*, according to the ways of creating *mizrob*, the poetic syllables are manifested as few as ten units; in rotations *axbar maqbuy makfuf majbub*, in as few as nine; in rotations *ashtar makfuf maqbus majbub* in as few as eight, and in rotations *ashtar maqbus majbub* in as few as seven. There are more opportunities for *mizrob* variants in the fundamental meters of *ruboī* rhythmic rotations, and fewer in the composed meters. As short *naxustzarbs* get joined in the process of producing different meters, the opportunities for creating types of *mizrob* are also steadily reduced. No type of *mizrob* can be established in one of the composed meters of the *a{x}rab makfuf majbub* rotation, which has been known under the name of *hazaj musamman axram musanāq abtar* (or *azall*). Because all of its short *naxustzarbs* have been connected, no practical possibilities remain for forming any metrical elision.\(^\text{17}\)

And, by contrast, the greatest opportunity for creating *mizrob* is in the fundamental meter of the *ashtar maqbus majbub* cycle, which is also known as *hazaj musamman ashtar maqbus majbub* (or *ahtam*). Six types of joined *naxustzarbs* appear in the above-mentioned meter and, according to the creation of *mizrob* of the *zarb*, in all, the poetic syllables arrive at 7 units. For example:

<table>
<thead>
<tr>
<th>She`r:</th>
<th>Boz</th>
<th>-raxt</th>
<th>-bast</th>
<th>-qalb</th>
<th>-īor</th>
<th>-šod</th>
<th>-gašt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vazn:</td>
<td>Fo-</td>
<td><code>-i-lun/</code></td>
<td>ma-fo-</td>
<td><code>-i-lun/</code></td>
<td>ma-fo-</td>
<td><code>-i-lun/</code></td>
<td>fa-`ûl</td>
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<tr>
<td>Zarb:</td>
<td>6/8</td>
<td><code>!</code></td>
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<td>nan ta-nan</td>
<td>ta-nan</td>
<td>ta-nan</td>
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<tr>
<td>Mizrob:</td>
<td>6/8</td>
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In summation, if in the context of rhythmic rotations and poetic meters short *naxustzarbs* can be joined, various types of *zarb* and poetic meters will be produced. And in a different context, if long and short *naxustzarbs* can be combined, various types of *mizrob* of *zarb* and poetic meters come into being.

**Creation and Classification of Ruboī Poetic Meters**

*Ruboī* is one of the types of poetry in which each of the four lines can be established in various meters. For this reason also, the *ruboī* *vazns* are not defined by one concrete form in the system of *a{r}az* meters. Inasmuch as the series of *ruboī* meters is generally structured in terms of one of the trees, all of the *ruboī* meters carry the name “in the form of this or that tree.” According to the rules for forming *zarb* and *vazns* of the *ruboī*, the *ruboī* *vazns* can be established in the form of the *a{x}rab* tree or the *ashtar* tree. That is, the various kinds of *ruboī* arrangement can only appear within the bounds of one of these trees. Within these trees, there are generally three types of *vazn* arrangement in the *ruboī*, which we will define as simple [*oda*], compound [*tarkibī*], and mixed [*omexta*]. In the “simple” type, the arrangement of its *vazns* is homogeneous, meaning all four lines of the *ruboī* are constructed in one metrical type. From our perspective, this type of
ruboī is like other poetic varieties constructed on the basis of one type of vazn. For this reason, this type of ruboī meter, like other poetic meters such as those of the ghazal, masnavī, qit'a, and so forth, possesses its own metrical model [i.e., in requiring each line to have the same metrical structure this simple kind of ruboī meter functions like these other meters].

Each of the 24 ruboī meters in the axrab tree and six others in the ashtar tree can be created in this way. As for arrangements of simple-type ruboī meters we give several examples:

**Simple type**

**A. In the axrab tree**

<table>
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<tr>
<th>Rotation 1</th>
<th>Rotation 2</th>
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<td>— — v/ v— v— v— v—</td>
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**B. In the ashtar tree**

<table>
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<th>Rotation 1</th>
<th>Rotation 2</th>
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In the “compound” type of ruboīs, the arrangement of vazns is varied. They are formed on the basis of the aforementioned rotations of zarb and ruboī trees [i.e., axrab makfuf majbub, axrab maqbuz makfuf majbub, and ashtar makfuf maqbuz majbub].¹⁸ There are many vazn arrangements of the above type. For example, a total of 14 different kinds of vazn arrangement can be seen in connection with the two vazn types that comprise one of the ruboī’s rhythmic rotations. These divide the four lines of the ruboī into two parts:

1) 3 x 1, or 3 lines in one vazn type and 1 line in another;
2) 2 x 2, or 2 lines in one vazn type and 2 lines in another.

They are shown in this chart:
Compound type

1. In relation to two types of ruboi vazn:

\[
\begin{array}{cccccccc}
3 \times 1: & 1) & 1 & 2) & 1 & 3) & 1 & 4) & 2 \\
& 1 & 1 & 2 & 1 & 2 & 2 & 1 & 2 \\
& 1 & 2 & 1 & 1 & 2 & 1 & 2 & 2 \\
& 2 & 1 & 1 & 1 & 2 & 2 & 2 & 2 \\
\end{array}
\]

\[
\begin{array}{cccc}
2 \times 2: & A. & 1) & 1 & 2) & 1 & 3) & 2 & 4) & 2 \\
& 1 & 2 & 2 & 1 \\
& 2 & 2 & 1 & 1 \\
& 2 & 1 & 1 & 2 \\
\end{array}
\]

B. 1) 1 2) 2
2 1
1 2
2 1

Now we will cast a glance at the correlation between the axrab tree’s two vazn types. [In the following table, the two meters are] within the rhythmic rotation of axrab makfuf majbub: 1) axrab makfuf majbub [— — v/v — — v/v v/v — — v/v v/v —] and 2) axrab makfuf abtar [— — v/v — — v/v v/v — — — / —]. Of the fourteen possible types in the compound vazn arrangement, we give only three different types in this example:

Metric types: 1. Akrab makfuf majbub

2. Akrab makfuf abtar

\[
\begin{array}{l}
3 \times 1 \ (Type \ 1) \\
1. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
1. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
1. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
2. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
\end{array}
\]

\[
\begin{array}{l}
2 \times 2 \ (Type \ 1A) \\
1. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
1. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
2. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- / --- \\
2. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- / --- \\
\end{array}
\]

\[
\begin{array}{l}
2 \times 2 \ (Type \ 1B) \\
1. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
2. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- / --- \\
1. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- \\
2. \ --- \ v/v \ --- \ v/v \ --- \ v/v \ --- / --- \\
\end{array}
\]

The correlation of three and four varied types of ruboi vazn also appears in the “compound” type in the context of one of the trees’ rotations, yielding a great number of vazn arrangements. For example:
II. Three metric types

A. Axrab tree – the axrab maqbuz makfuf majhub rotation

Metric types: 1. Axrab maqbuz makfuf majhub  
2. Axrab maqbuz abtar  
3. Axram ashtar makfuf majhub

2 x 1 x 1 (Type 1)  
1. — — V/ \ V — — V — — / V — — / V —  
1. — — V/ \ V — — V — — / V — — / V —  
2. — — V/ \ V — — V — — / V — — / V —  
2. — — V/ \ V — — V — — / V — — / V —  
3. — — — / — V — — V — / V — / V —  
3. — — — / — V — — V — / V — / V —  

(Type 2)

1. — — V/ \ V — — V — — / V — — / V —  
1. — — V/ \ V — — V — — / V — — / V —  
2. — — — / — V — — V — / V — / V —  
2. — — — / — V — — V — / V — / V —  
3. — — — / — V — — V — / V — / V —  
3. — — — / — V — — V — / V — / V —

B. Axrab tree – the axrab makfuf majhub rotation

Metric types: 1. Axrab makfuf abtar  
2. Axram axrab makfuf majhub  
3. Axram muxannaq abtar

2 x 1 x 1 (Type 1)  
1. — — V/ \ V — — V/ \ V — — / —  
1. — — V/ \ V — — V/ \ V — — / —  
2. — — — / — V/ \ V — — V/ \ V — — / —  
2. — — — / — V/ \ V — — V/ \ V — — / —  
3. — — — / — — — / — — — / —  
3. — — — / — — — / — — — / —  

(Type 2)

1. — — V/ \ V — — V/ \ V — — / —  
1. — — V/ \ V — — V/ \ V — — / —  
2. — — — / — V/ \ V — — V/ \ V — — / —  
2. — — — / — V/ \ V — — V/ \ V — — / —  
3. — — — / — — — / — — — / —  
3. — — — / — — — / — — — / —

III. Four metric types

A. Axrab tree – the axrab makfuf majhub rotation

Metric types: 1. Axrab makfuf majhub  
2. Axrab majhub  
3. Axrab maqbuz abtar  
4. Axram mambunaq axrab majhub

Four different vazns (Type 1)  
1. — — V/ \ V — — V — — V/ \ V —  
2. — — V/ \ V — — V — — V/ \ V —  
3. — — — / — V/ \ V — — V/ \ V —  
4. — — — / — — — / — — V/ \ V —  

(Type 2)

2. — — V/ \ V — — V — — / — — V/ \ V —  
3. — — — / — V/ \ V — — V/ \ V — — / —  
4. — — — / — — — / — — V/ \ V —  
1. — — V/ \ V — — V/ \ V — — V/ \ V —
B. Axrab tree – the axrab maqbuż makfuf majbub rotation

Metric types: 1. Axrab maqbuż makfuf majbub
2. Axram ashtar makfuf majbub
3. Axrab maqbuż abtar
4. Axram ashtar abtar

Four different vazns (Type 1) (Type 2)
1. — — \(\text{\textbackslash v}/\text{\textbackslash v} — — \text{\textbackslash v} — \text{\textbackslash v}/\text{\textbackslash v} — \) 2. — — — / — \(\text{\textbackslash v} — \text{\textbackslash v} — — \text{\textbackslash v}/\text{\textbackslash v} — \)
3. — — \(\text{\textbackslash v}/\text{\textbackslash v} — \text{\textbackslash v} — \text{\textbackslash v} — — / — \) 4. — — — / — \(\text{\textbackslash v} — \text{\textbackslash v} — — / — \)

The result is that the “compound” type is an arrangement of ruboī vazns based on one of the zarb rotations and ruboī vazns. It appears with various mixed forms in connection with the fundamental and composed vazns.

“Mixed” is another type of ruboī vazn structure. In this type, the vazn arrangements are based on two rhythmic rotations within one of the trees. In other words, the “mixed” type of ruboī vazns is built entirely on the structure and form of the axrab tree or that of the ashtar tree. For example, two rhythmic rotations exist in the axrab tree—axrab makfuf majbub and axrab maqbuż makfuf majbub—and in the ashtar tree, ashtar makfuf maqbuż majbub and ashtar maqbuż majbub. A mixture results from combining the fundamental and composed vazns, or two different composed vazns from two rotations within one of the two trees. The possibilities for arranging different ruboī vazns in the mixed type are even greater than in the compound type; in the compound type, two, three, or four different vazn types are only seen in one of the zarb rotations and ruboī vazns, and in the mixed type, they are seen in two different rotations, making an incalculable number.

As an example, we present several ruboī vazn arrangements in the mixed type, composed of 2, 3, and 4 different types of vazn:

Mixed type

I. Two types of different meters

A. Axrab tree

Metric types: 1. Axrab makfuf majbub rotation
2. Axrei maqbuż abtar rotation

2 x 2
1. — — \(\text{\textbackslash v}/\text{\textbackslash v} — — \text{\textbackslash v} — \text{\textbackslash v}/\text{\textbackslash v} — \) 3 x 1
1. — — \(\text{\textbackslash v}/\text{\textbackslash v} — — \text{\textbackslash v} — \text{\textbackslash v}/\text{\textbackslash v} — \)

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B. Ashtar tree

Metric types: 1. Ashtar majbub rotation
              2. Ashtar maqbus majbub rotation

2 x 2
1. —— —/ —/ —/ ——— —/ —/ —/ — —/ —/ —
2. —— —/ —/ —/ ——— —/ —/ —/ — —/ —/ —
3 x 1
1. —— —/ —/ —/ ——— —/ —/ —/ — —/ —/ —
2. —— —/ —/ —/ ——— —/ —/ —/ — —/ —/ —

II. Three types of different meters

A. Axrab tree

Metric types: Rotation 1. 1. Axrab makfuf abtar
                      2. Axrab majbub
                     Rotation 2. 3. Axram ashtar makfuf majbub

2 x 1 x 1
1. —— / / — —/ / — —/ / — —/ / — —/ / —
2. —— / / — —/ / — —/ / — —/ / — —/ / —
3. —— / / — —/ / — —/ / — —/ / — —/ / —
1 x 2 x 1
1. —— —/ / — —/ / — / — / — / —

B. Ashtar tree

Metric types: Rotation 1. 1. Ashtar makfuf maqbus majbub
                      2. Ashtar majbub
                     Rotation 2. 3. Ashtar maqbus majbub

2 x 1 x 1
1. —— / / — —/ / — —/ / — —/ / — —/ / —
1 x 2 x 1
III. Four types of different meters

A. Axrab tree

Metric types: Rotation 1. 1. Axrab makfuṣ majbub 2. Axram axrab makfuṣ majbub

Rotation 2. 3. Axrab maqbuz makfuṣ majbub 4. Axram ashtar makfuṣ majbub

Type 1 – 1,2,3,4
1. — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ —
2. — — — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — 3. — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — —

Type 2 – 3,2,4,1
1. — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ —
2. — — — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — 3. — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — —

B. Ashtar tree

Metric types: Rotation 1. 1. Ashtar makfuṣ maqbuz majbub 2. Ashtar majbub

Rotation 2. 3. Ashtar maqbuz ahtam 4. Ashtar maqbuz majbub

Type 1 – 1,2,3,4
1. — ٧ — — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ —
2. — — — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — 3. — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — —

Type 2 – 2,4,3,1
1. — ٧ — — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ —
2. — — — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — 3. — — ٧/٧ ٧/٧ ٧/٧ ٧/٧ — —

As we can see, the more complex the type of ḥūbī vazn structure becomes, the greater and the more varied become the possibilities for arranging ḥūbī vazns. The compound type has more possibilities than the simple type, and the mixed type more than the compound, so of course, it becomes easier and more interesting to compose ḥūbīs in the compound and mixed types. With more possibilities of ḥūbī meters, the poet has more opportunities for invention and extemporization and can express ideas and opinions more easily.

There are many useful examples of the various vazn arrangements in Khayyam’s ṭūbīyot. From study and analysis of vazn types in Khayyam’s ṭūbīyot, it is known that he composed using mainly the compound and mixed types.

Vazns of Khayyam’s Ruboiyot

The ṭūbīyot of Omar Khayyam have been, and will be, published many times by various scholars. The book that we are currently using was published in 1983 by Mirzo Mulloahmadov, literature scholar and doctor of philology. In this book are a total of 540 ṭūbīyot by Khayyam, with one in the “mustazod” form.
Actually, it has not been proven which of the ruboīs were originally written by Khayyam, but this is another discussion. In this article, we use Mulloahmadov’s book as the source. After a comprehensive study of the ruboiyot meters in this collection we reached the following results, and we present them to you:

1. The meters of Khayyam’s ruboiyot are mostly constructed in the axrab tree. He used 16 types of ruboī meters in total, including eight meters of axrab makfuf majbub and eight of axrab maqbuz makfuf majbub [n.b., remember that each meter counts as two, because of the two possible endings, long and overlong]:

Axrab makfuf majbub rotations
1. Axrab makfuf majbub and ahtam
   — — — — — — — — — — — — — — — — — — — — — — — — — — —
2. Axrab makfuf abtar and azall
   — — — — — — — — — — — — — — — — — — — — — — — — — — —
3. Axram axrab makfuf majbub and ahtam
   — — — — — — — — — — — — — — — — — — — — — — — — — — —
4. Axram axrab abtar and azall
   — — — — — — — — — — — — — — — — — — — — — — — — — — —

Axrab maqbuz makfuf majbub rotations
1. Axrab maqbuz makfuf majbub and ahtam
   — — — — — — — — — — — — — — — — — — — — — — — — — — —
2. Axrab maqbuz abtar and azall
   — — — — — — — — — — — — — — — — — — — — — — — — — — —
3. Axram ashtar makfuf majbub and ahtam
   — — — — — — — — — — — — — — — — — — — — — — — — — — —
4. Axram ashtar abtar and azall
   — — — — — — — — — — — — — — — — — — — — — — — — — — —

It must be said that all of the possible ruboī meters that appear in the axrab maqbuz makfuf majbub rotations are used in Khayyam’s ruboiyot. But of the 16 possible types of meters that can be created in the axrab makfuf majbub rotations, only eight types were used.

2. In terms of the vazns put to use in Khayyam’s ruboiyot, myriad types of mizrob (elision) in the zarbs and poetic meters are also seen. In terms of percentages, Khayyam made use of 70% of all of the possible mizrobs.

3. All of the three metrical classification types—simple, compound, and mixed—appear in Khayyam’s ruboiyot. A total of 81 ruboī are in the simple type and one is also in the mustazod form. In the texts of the simple type, six ruboī metric types are seen. Only two metric types of axrab makfuf abtar/azall are formed in the axrab makfuf majbub rotations, and a total of four types of axrab maqbuz majbub/ahtam and axrab maqbuz abtar/azall are formed on the basis of the axrab maqbuz makfuf majbub rotation.
A total of 82 ruboī are built in the compound type, including six ruboī according to the model of the axrab makfuf majbub rotations and 76 ruboī according to the model of the axrab maqbuz makfuf majbub rotations. Formations described above (compound type) appear in connection with only two and three types of vazn in texts of both rotations, but not in connection with four vazns.

A great many of Khayyam’s ruboiyot are found in the mixed type of vazn arrangement. 377 ruboī are built in texts of the mixed type in connection with two-, three-, and four-vazn types. For example, 198 ruboīs have been composed in connection with the two-vazn arrangement type in two rotations, and most of them appear in the fundamental vazns of those rotations. If 99 ruboī are created according to the fundamental vazns, 99 will also be in the mold of the composed vazns.

According to the model of the three-vazn type from the various rotations above, a total of 160 ruboīs are composed. In connection with the above, the types of vazn arrangement are as many as 85. In texts with the two-vazn type, out of a total of 198 ruboī, 42 types of vazn arrangement are evident. According to the model of the four-vazn type, 16 different kinds of arrangement are seen in a total of 19 ruboīs.

It must also be remembered that the calculation of proportions differs with respect to various vazns in this or that rotation. For example, in the two-vazn type models, the arrangement of vazns is varied. In one instance it is equal, 2 x 2, and in another instance it is unequal, 3 x 1 or 1 x 3. In texts with three different types of vazns, the arrangement can be in various forms, such as 2 x 1 x 1 or 1 x 2 x 1, or 1 x 1 x 2. In texts with four different types of vazns the nature of the arrangement differs from that of the others, because each vazn is different: 1 x 1 x 1 x 1.

Now, in order to confirm our consideration, we give some examples in existing types and vazn arrangements from Khayyam’s ruboiyot:

**Simple type**

1. *Axrab makfuf majbub rotation*

**Metric type: Axrab makfuf abtar and azall** [— — ṣ/ ṣ — — ṣ/ ṣ — — / — — or ~]

In kūza ču man ošiqi zore budast, Eī ‑ voi bar on dil, ki dar ū sūze nest,
V‑andar talabi rūi nibore budast, Savdozadai mehri dilafrūže nest,
In dasta, ki dar gardani ū mebińi, Rūže, ki tu be išq ba sar xohī burd,
Dastest, ki bar gardani yore budast. Zoeʿtar az on rūz turo rūze nest.

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2. Axrab maqbus makfuf majhub rotation

Metric types:


Gardun kamare zi umri farsudai most,
Jaîhun asare zi čašmi poludai most,
Düzax šarare zi ranji behudai most,
Firdavs dame zi vaqti osudai most.


Onho, ki ba kori aql darmekūsand,
Haîhot, ki jumla govi nar mejūsand.
On beh, ki libosi ablah īdarpūsand,
K-imirūz ba aql tarra menafrūsand.

Compound types

A. With two different meters

1. Axrab makfuf majhub rotation

Metric types: 1. Axrab makfuf majhub (or ahtam) [— — ٧/٧ — ٧ — /٧ — — ٧/٧ — /٧ — — ٧/٧ — or ٧/٧ — ]

3 x 1
Dar otaši sůzanda agar ahl buvd,
On otaši sůzanda bar ū sahl buvd.
Bo mardumi noahl mabodat sůhbat,
K-az har či batar sůhbatī noahl buvd.

1 x 3
Daryob, ki az rūh, judo xohī raft,
Dar pardai asrori fano xohī raft.
Maī nūš, nadonī zi kujo omadaī,
Xuš boš, nadonī, ki kujo xohī raft.

2. Axrab maqbus makfuf majhub rotation

Metric types:

1. Axrab maqbus makfuf majhub (or ahtam) [— — ٧/٧ — ٧ — /٧ — — ٧/٧ — /٧ — — ٧/٧ — or ٧/٧ — ]

3 x 1
Onho, ki kuhan šudandu onho, ki navand,
Har yak pai yakdigar yakoyak bišavand.
V-in mulkī kahon ba kas namonad jovid,
Raftandu ravemu boz oyandu ravand.

1 x 3
Huš dor, ki rūzgor šūrangez ast,
Emin manišin, ki teği dabron tez ast.
Dar komi tu gar zamon lavzina nihad,
Zinhur furū mabar, ki zahromez ast.
B. With three different meters

1. *Axrab makfuf majbub* rotation

Metric types: 1. *Axrab makfuf ahtam* \([- - \checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark/ \checkmark \checkmark\] )

2. *Axrab makfuf azall* \([- - \checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark/ \checkmark \checkmark/ \checkmark \checkmark\] )

3. *Axram axrab azall* \([- - / \checkmark\checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark\] )

1 x 2 x 1
Sarmast ba maïxona guzar kardam düš,
Pire didam mastu sabûe bar düš.
Guftam: “Zi Xudo šarm nadorî, eï pir?”
Gufto, ki “Karim ast Xudo, boda binûš!”

2. *Axrab maqbus makfuf majbub* rotation

Metric types: 1. *Axrab maqbus makfuf ahtam* \([- - \checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark/ \checkmark \checkmark\] )

2. *Axrab maqbus azall* \([- - \checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark/ \checkmark \checkmark/ \checkmark \checkmark\] )

3. *Axram ashtar azall* \([- - / \checkmark\checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark\] )

1 x 2 x 1
Dar dil natavon daraxti andûh, nişond,
Hamvora kitobi xurramî boyad xond,
Maï boyad xûrdû komî dil boyad rond,
Païdost, ki çand dar jahon boyad mond.

Neither rhythmic rotations nor *rubois* are found in connection with four types of meter.

Mixed type

A. Two metric types from two rotations

Metric types: Rotation 1. 1. *Axrab makfuf majbub (or ahtam)*

\([- - \checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark/ \checkmark \checkmark\] )

Rotation 2. 1. *Axrab maqbus makfuf majbub (or ahtam)*

\([- - \checkmark/ \checkmark- \checkmark/ \checkmark- \checkmark/ \checkmark \checkmark\] )

2 x 2
In qofilai umr ajab meguzarad,
Daryob dame, ki bo tarab meguzarad.
Soqî, gami fardoi qiyomat či xurfi?
Peš or piyolaro, ki šab meguzarad.

2 x 2
Aknun, ki zi xušdilî ba juz nom namond,
Yak hamdami puxta juz man xom namond.
Dasti tarab az soğari man bozmagir,
Imrûz, ki dar dast ba juz jom namond.
B. Three metric types from two rotations

Metric types: Rotation 1. 1. Axrab makfuf majbub (or ahtam)

   [− − ٧/ ٧−− ٧/ ٧−− ٧/ ٧− or ٧−]

Rotation 2. 2. Axrab maqbuz makfuf majbub (or ahtam)

   [− − ٧/ ٧−−/ ٧−−/ ٧−− or ~]

3. Axrab maqbuz azall (or abtar)

   [− − ٧/ ٧−− ٧/ ٧−−−/ ٧−− or ~]

2 x 1 x 1
Maï xur, ki turo bexabar az xeš kunad,
Xun dar dili dušmani badandeš kunad.
Hušyor budan či sud dorad, juz on-k
Z-andešaği poyon dili tu reš kunad.

1 x 2 x 1
Yoron, ču ba ittifoq mi’od kuned,
Xudro ba jamoli yakdigar šod kuned.
Soqī ču mañi muğona bar kaf girad,
Bečora falonro ba duo yod kuned.

C. Four metric types from two rotations

Metric types: Rotation 1. 1. Axrab makfuf ahtam

   [− − ٧/ ٧−− ٧/ ٧−− ٧/ ٧− or ~]

2. Axrab makfuf azall

   [− − ٧/ ٧−−/ ٧−−/ ٧−− or ~]

Rotation 2. 3. Axrab maqbuz azall

   [− − ٧/ ٧−−/ ٧−−−/ ٧−− or ~]

4. Axrab maqbuz makfuf ahtam

   [− − ٧/ ٧−−/ ٧−−− ٧/ ٧−− or ~]

1 x 1 x 1 x 1 (each different)
Davre, ki dar ü omadanu raftani most,
Onro na bidoyat, na nihoyat païdost
Kas hej nagufta andar in ma’nî rost,
K-in omadan az kujovu raftan ba kujost.

Metric types:
Rotation 2. 1. Axrab maqbuz abtar (azall)

   [− − ٧/ ٧−−/ ٧−−/ ٧−−−/ ٧−− or ~]

Rotation 1. 2. Axrab makfuf abtar (azall)

   [− − ٧/ ٧−−/ ٧−−/ ٧−−−/ ٧−− or ~]

Rotation 2. 3. Axrab maqbuz makfuf (abtar) (ahtam)

   [− − ٧/ ٧−−/ ٧−−/ ٧−−− ٧−− or ~]

4. Axram ashtar abtar (azall)

   [− − −/ ٧−−/ ٧−−−/ ٧−− or ~]

1 x 1 x 1 x 1 (each different)
Güyand maro, ki maïparastam, hastam,
Güyand maro fosiqu mastam, hastam.
Dar zohiri man nigoh bisyor makun,
K-andar botin čunon ki hastam, hastam.

Soğar pur kun, ki barfgun omad rüz,
Z-on boda, ki la’l ast, az ü rang omüz.
Bardor du udrovu majlis afrüz
Yak ud bisoz v-on digar ud bisüz.

To summarize, Khayyam’s ruboiyot are only formed on the basis of the axrab tree, and of the 24 possible meters, he used only 16. His ruboiyot are written in simple, compound, and mixed formats. Out of 540 ruboïs in Mulloahmadov’s collection, approximately 70% are in a mixed form.
For this reason, no one has ever created a poem in this tree of rubōī meters. Only the scholar and arūz-master Subhon Davronov has brought out an exemplary hemistich for the purpose of...
recognizing and feeling each vazn of the ashtar tree and its variants [mizrob—rhythmic compositions created by combining short and long durations into longer values]. This manuscript is now stored in the Kamina archives (Davronov 1998).

12 Trans. note: Musamman refers to the number of feet in the meter. For the purposes of this article, readers can construct the meters in this table beginning with the third element in each title.

13 In al-Mū’jam, Shamsi-Qays wrote: “And Khoja Imom Hasani Qatton (1073-1154) ... from Khorāsān summarized that arūz versification and dubaṭi meters (meaning, ruboī) are constructed in two trees. In this writing I am involved in the same inquiry ... to approach understanding of the qualities of composition as soon as possible” (Shams-i Qays 1991:97).

14 Trans. note: This paragraph alludes to the conventional division of ruboī meters into axrab and axram trees, as opposed to the axrab and ashtar trees described in this article. In Abdurashidov’s table, the twelve meters beginning with axrab are I.A.1, I.B.1, I.B.2, I.B.4, II.A.1, and II.B.1, and the twelve meters beginning with axram are I.B.3, I.B.5, I.B.6, I.B.7, II.B.2, and II.B.3. Abdurashidov’s analysis is based on the idea that the axram meters are not themselves fundamental meters but are rather constructed by joining short syllables/attacks in the third and fourth positions of a foot.

15 Trans. note: Mizrob generally refers to a plectrum, and can also refer to a stick or hammer used to strike a zither or drum; note the relation of zarb to mizrob. In this section, mizrob refers to metrical elisions or rhythmic variants that are created through the combination of long and short units.

16 We loosely use the term atonin to mean the articulation of the “na-ta-nan”-s of rhythm.

17 Trans. note: In other words, if the short beats have already been connected in forming composed meters, one cannot further connect beats to create rhythmic patterns with 1½ (long+short) values.

18 Trans. note: Note that compound ruboīs cannot be formed within the ashtar maqbus majbub circle, since it only contains the basic meter.

References


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