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When the Scorpion Climbs: Evolutions of Arabic *Saj'a* Rhymes for Forecasting Seasonal Times

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Resumen

La astronomía tradicional a simple vista fue un elemento rico de la cultura árabe que ocupó un lugar destacado en la vida cotidiana de los pastores, agricultores y pescadores, entre otros (Varisco 2000). Estas prácticas culturales se transmitieron de antepasados a sucesores, y el conocimiento se conservó a través de la poesía oral y la prosa rimada, ambas tradiciones árabes antiguas y veneradas. Los historiadores abasíes (750-1258 d. C.) fueron los primeros en documentar el conocimiento astronómico árabe tradicional; el trabajo existente más completo es el *Kitab al-Anwā'* (1956) de Ibn Qutayba (m. 889 d. C.). Su trabajo y los remanentes de otros trabajos (ver Ibn Sīda 1898-1903; al-Marzūqī 1914; Quṭrub 1985; y al-Ṣūfī 1981) revelan la amplitud de la aplicación del conocimiento de las estrellas locales para la predicción de cambios climáticos estacionales que a su vez pronostican varios elementos de los ciclos florales, faunísticos y sociales (Henninger 1954; Pellat 1955; Varisco 1991).

Observados en el crepúsculo creciente del amanecer, los ocasos cósmicos de las estrellas tenían una gran importancia cultural y se destacaban fuertemente en la poesía y el Corán, pero las salidas heliacas prevalecían en el medio de la prosa rimada (*saj'*). Posiblemente, una precursora de las primeras formas de poesía árabe clásica, *saj'* presentaba una rima al final de cada frase sin ninguna métrica interna o número requerido de sílabas. En el contexto de las salidas heliacas, *saj'* era una fórmula, comenzando con la frase, “Cuando [la estrella] sale, ...”. Las frases rimadas que seguían a esta apertura conectaban el tiempo estacional de la salida heliaca de la estrella o asterismo, con las características, de la flora, la fauna y las actividades sociales que se llevaban a cabo durante ese tiempo. Esta estructura hizo que las piezas de *saj'* fueran fáciles de transmitir y recordar, preservando el conocimiento íntimo de la vida en el desierto entre los árabes, quienes observaron “el soplo de los vientos, la salida de las estrellas y el cambio de las estaciones” (al-Marzūqī 1914, 2:179-180). Las atribuciones de autoría nunca se identificaron en la literatura existente, lo que indica que estos dichos en prosa rimada se desarrollaron orgánicamente a partir de la sociedad árabe.

En este artículo, el autor examina el desarrollo de la prosa rimada a lo largo del tiempo para el complejo celeste del Escorpión (*al-'aqrab*), como un ejemplo del proceso social en curso de construcción de estas piezas de prosa rimada, y su utilidad evolutiva para la predicción estacional. Con el tiempo, se desarrollaron piezas de *saj'* para el Escorpión como un todo y para cada una de sus cuatro partes constituyentes: la Tenaza (*az-zubānā*), la Corona (*al-iklīl*), el Corazón (*al-qalb*) y la Cola Elevada (*ash-shawlā*). El *saj'* para el Escorpión proporciona una visión de los procesos de cambio en los sistemas astronómicos sociales que continúan evolucionando con el tiempo en lugar de permanecer estáticos. Como tal, estos cielos vivos de Arabia son ventanas a los roles integrales que desempeñan las astronomías indígenas dentro de una sociedad.

Palabras clave: astronomía árabe indígena, salida heliacal, prosa árabe rimada (*saj'*), pronóstico estacional, astronomía popular.

Abstract

Traditional naked-eye astronomy was a rich element of Arab culture that figured prominently in the daily lives of herdsman, farmers and fishermen, and others (Varisco 2000). These cultural practices were passed down from ancestors to successors, and the knowledge was preserved through oral poetry and rhymed prose, both of them ancient and honored Arab traditions. Abbasid (750-1258 CE) historians were the first to document traditional Arab astronomical knowledge, the most complete extant work being the *Kitab al-Anwā'* (1956) of Ibn Qutayba (d. 889 CE). His work and the remnants of other works (see Ibn Sīda 1898-1903; al-Marzūqī 1914; Quṭrub 1985; and al-Ṣūfī 1981) reveal the breadth of application of local star knowledge to the prediction of seasonal weather changes that in turn forecast various elements of floral, faunal and social cycles (Henninger 1954; Pellat 1955; Varisco 1991).

Observed in the waxing twilight of dawn, the cosmical settings of stars were culturally significant and featured strongly in poetry and the Qur'ān, but heliacal risings were prevalent within the medium of rhymed prose (*saj'*). Possibly a precursor to the first forms of classical Arabic poetry, *saj'* featured a rhyme at the end of each phrase without any internal meter or required number of syllables. Within the context of heliacal risings, *saj'* was formulaic, beginning with the phrase, "When [star] rises, ..." The rhymed phrases that followed this opening connected the seasonal time of the heliacal rising of the star or asterism with characteristics of the floral, faunal and social activities that were undertaken during that time. This structure made pieces of *saj'* easy to transmit and remember, preserving the intimate knowledge of life in the desert among the Arabs, who observed "the blowing of the winds, the rising of the stars, and the changing of the seasons" (al-Marzūqī 1914, 2:179-180). Attributions of authorship were never identified within the literature that remains extant, indicating that these rhymed prose sayings developed organically out of Arabian society.

In this paper, the author examines the development of rhymed prose over time for the celestial complex of the Scorpion (*al-'aqrab*) as an example of the ongoing social process of construction of these pieces of rhymed prose and their evolving utility for seasonal forecasting. Over time, there developed pieces of *saj'* for the Scorpion as a whole and for each of its four constituent parts: the Pincer (*az-zubānā*), the Crown (*al-iklīl*), the Heart (*al-qalb*), and the Raised Tail (*ash-shawlā*). The *saj'* for the Scorpion provides insight into the processes of change in social astronomical systems that continue to evolve over time rather than remaining static. As such, these living skies of Arabia are windows into the integral roles that indigenous astronomies play within a society.

Keywords: indigenous Arabian astronomy, heliacal rising, Arabic rhymed prose (*saj'*), seasonal forecasting, folk astronomy.

Introduction

Among the four circumstances that connect the rising or setting of a star to the time of night—its heliacal setting in the west or acronychal rising in the east just after sunset, or its cosmical setting in the west or heliacal rising in the east just ahead of sunrise—cosmical settings were most prominent within Arabia prior to the advent of Islam in the 7th century CE. However, heliacal risings were also observed, and they were significant within the specific medium of rhymed prose (*sajʿ* in Arabic). The short, rhymed phrases of this genre made memorization of pieces of rhymed prose easy, and this structure also made it easy to add new phrases over time as a piece of rhymed prose evolved. *Sajʿ* was used in pre-Islamic times for orations and secular aphorisms, and its use continued after the advent of Islam for formulaic Islamic rituals. Extant sources preserve collections of rhymed prose that were used to forecast seasonal changes throughout the year, and in this brief paper the celestial complex of the Scorpion (*al-ʿaqrab*) demonstrates the utility and evolution of rhymed prose in forecasting the floral, faunal and societal activities that were connected to these seasonal changes.

The Scorpion

Appearing as early as 3200 BCE within Mesopotamian texts, the Scorpion was also recognized by Arabian tribes in its complete form, including its pincer stars (Rogers 1998: 24–25; see Figure 1).

As observed from Arabia during the 6th century CE, the whole star grouping took about a month and a half to rise heliacally, from early November through mid-December (Ibn Qutayba 1956: 68–72). An analysis of Arabic sources shows that the Scorpion had appeared within pre-Islamic poetry by 600 CE, and it was included in the earliest extant compilation of rhymed prose by Quṭrub (d. 821 CE), who listed the star grouping as the first of the rising stars of winter (1985: 27). Outside of his ordered description of the rising stars of summer and winter, Quṭrub also included rhymed prose for the Pincer (*az-zubānā*), the Crown (*al-iklīl*), and the Heart (*al-qalb*), but he did not include rhymed prose for the Raised Tail (*ash-shawlā*). Decades later, Ibn Qutayba (d. 889 CE) included rhymed prose for all four parts of the Scorpion, as did his contemporary Abū Ḥanīfa (d. 896 CE), whose text was partially preserved in the later work of Ibn Sīda (d. 1066), and the later compiler al-Marzūqī (d. 1030 CE). However, both the organization of this content and the content itself were significantly different in these later works (Ibn Qutayba 1956; Ibn Sīda 1898-1903; al-Marzūqī 1914).

Pieces of rhymed prose were recorded for the Scorpion by each of the four authors identified above, the earliest of which was from the record of Quṭrub (1985: 27):

idhā ṭalaʿati l-ʿaqrab
jamasa l-midhnab
wa māta l-jundab
wa qaruba l-ashyab

 When rises the Scorpion,
 frozen is the valley run,
 the life of the locust is done,
 and the time for hoarfrost has begun.

Half a century later, Ibn Qutayba recorded a version that interchanged the third and fourth rhymed phrases and added a fifth rhymed phrase (1956: 72):

wa lam yaşirra l-akḥṭab

and the shrike grates on no one.

Contemporary with Ibn Qutayba, Abū Ḥanīfa recorded a shortened version that contained only three rhymed phrases, omitting the third phrase recorded by Quṭrub (Ibn Sīda 1898–1903, 9:16). Abū Ḥanīfa also offered an alternative reading of the verb in the final rhymed phrase as

qarra, which would change the meaning to “and the hoarfrost becomes frozen.” Finally, al-Marzūqī recorded a version that was identical to that of Quṭrub, with only a change of the verb in the final phrase to *farfara*, meaning “and the hoarfrost does awaken” (1914, 2: 181). Thus, in the case of the Scorpion as a whole, the earliest piece of rhymed prose both gained and lost a phrase over time. The fourth phrase that Quṭrub recorded concerning the hoarfrost also experienced multiple changes to its verb over time, although none of these altered the fundamental meaning of the rhymed phrase.



Figure 1: The stars of the Scorpion as it rose out of the eastern horizon before sunrise in mid-December, as seen from the latitude of Mecca in 800 CE.

The Pincer

Two widely-spaced stars known today as Zubenelgenubi (α Librae) and Zuben-eschamali (β Librae) formed the Pincer (*az-zubānā*) of the Scorpion, which rose heliacally during the morning twilight of 1 November (Ibn Qutayba 1956: 68). Quṭrub recorded a brief piece of rhymed prose for the Pincer (1985: 28):

*idhā ṭala'ati z-zubānā
baradati th-thanāyā*

When rises the Pincer,
cold is the front incisor.

The contemporaries Ibn Qutayba and Abū Ḥanīfa later recorded a completely different piece of rhymed prose that consisted of five phrases (Ibn Qutayba 1956: 69; Ibn Sīda 1898–1903, 9:16). The piece as recorded by Ibn Qutayba reads:

*idhā ṭala'ati z-zubānā
aḥdathat li-kulli dhī 'iyālin shānā
wa li-kulli dhī māshiyatin hawānā
wa qālū kāna wa kānā
fa-jma' li-ahlika wa lā tawānā*

When rises the Pincer,
it creates worries for each household leader
and humiliation for every she-camel breeder,
and “Once upon a time...,” says the
storyteller;
so, gather for your kin, and do not lose vigor.

Abū Ḥanīfa rendered *dhī māshiyatin* as *māshiyatin*, which changed the meaning from “she-camel breeder” to “she-camel”,

and he also omitted the particle *fa* in the final phrase, which removed “so” from the translation. Al-Marzūqī later recorded a version that largely resembled that of Ibn Qutayba, but with some small changes (1914, 2: 183). These included the omission of *dhī*, per Abū Ḥanīfa, and two small changes to verbs (from *shānā* to *shabānā* in the second phrase, and from *tawānā* to *tatawānā* in the final phrase) that did not result in changes to their meanings. However, al-Marzūqī also inserted just ahead of his final phrase the rhymed phrase recorded by Quṭrub about the cold incisors. The inclusion of this older phrase suggests that it had fallen out of use in oral tradition but was later recovered by al-Marzūqī from the writings of Quṭrub; it is unknown whether its oral transmission had also resumed at this point.

The Crown

Three stars known today as Acrab (β Scorpii), Dschubba (δ Scorpii), and Fang (π Scorpii) formed the Crown (*al-iklīl*) of the Scorpion, which rose heliacally during the morning twilight of 14 November (Ibn Qutayba 1956: 69). As he did for the Pincer, Quṭrub recorded only a brief piece of rhymed prose for the Crown (1985: 27):

*idhā ṭala'a l-iklīl
inšāba kullu dhī ḥalīl*

When rises the Crown,
each husband can't keep his desire down.

The contemporaries Ibn Qutayba and Abū Ḥanīfa again recorded a completely different piece of rhymed prose, this time consisting of four phrases (Ibn Qutayba 1956: 70; Ibn Sīda 1898–1903, 9:16):

*idhā ṭala'a l-iklīl
hājati l-fuḥūl
wa shummirati dh-dhuyūl
wa tukhuwwifati s-suyūl*

When rises the Crown,
the lust of the male camels won't die down,
gathered up is the gown,
and the torrents are feared [lest you drown].

The above was recorded by Ibn Qutayba; Abū Ḥanīfa recorded an identical piece of rhymed prose, but he noted that the verb in the second phrase was sometimes rendered as *habbatī*, which did not alter the meaning. Al-Marzūqī also recorded essentially the same piece of rhymed prose, but with two minor changes (1914, 2: 183). He rendered the verb in the second phrase as *hājati*, which slightly changed the meaning to “the need of the male camels”, and he transmitted the plural *suyūl* (torrents) as the singular *sūl* (torrent). Unlike the rhymed prose for the Pincer, the earlier piece recorded by Quṭrub never returned in the rhymed prose for the Crown, although a similar sentiment was applied to male camels in the newer versions.

The Heart

The brilliant red star known today as Antares (α Scorpii) represented the Heart (*al-qalb*) of

the Scorpion, which rose heliacally during the morning twilight of 27 November (Ibn Qutayba 1956: 70). Here again, Quṭrub recorded only a brief piece of rhymed prose for the Heart (1985: 28):

*idhā ṭala'a l-qalb
jā'a sh-shitā'u ka-l-kalb*

When rises the Heart,
like the dog the winter does start.

Ibn Qutayba recorded a version that added two more rhymed phrases (1956: 70):

*wa šāra ahlu l-bawādī fī karb
wa lā yumakkinu l-faḥla illā dhātu tharb*

the desert-dwellers fall apart,
and with none but pseudopregnant
females can the male camel take part.

Abū Ḥanīfa recorded a version similar to that of Ibn Qutayba, but he rendered *bawādī* as *wādī*, changing the meaning from “desert-dwellers” to “valley-dwellers” (Ibn Sīda 1898–1903, 9:16). His version also used a different verb form in the fourth rhymed phrase (*lam tumakkini*), which in this context did not alter the meaning. The version recorded by al-Marzūqī combined the third phrase from Ibn Qutayba with the fourth phrase from Abū Ḥanīfa (1914, 2: 183). In contrast to the rhymed prose for the Pincer and the Crown, the initial brief piece recorded by Quṭrub in the rhymed prose for the Heart was preserved as additional verses were added to it years later.

The Raised Tail

The close pair of stars known as Shaula (λ Scorpii) and Lesath (ν Scorpii) together represented the Raised Tail (*ah-shawla*) of the Scorpion, which rose heliacally during the morning twilight of 10 December (Ibn Qutayba 1956: 72). Qutrub did not record rhymed prose for this star grouping at all, and so the earliest version was recorded by contemporaries Ibn Qutayba and Abū Ḥanīfa (Ibn Qutayba 1956: 72; Ibn Sīda 1898–1903, 9:16). The piece as recorded by Ibn Qutayba reads:

*idhā ṭala'ati sh-shawla
a'jalati sh-shaykha l-bawla
wa-shtaddat 'alā l-'ā'ili l-'awla
wa qīla shatwatun zawla*

When rises the Raised Tail,
the daughter hastens the frail,
family heads are pressed by the needy wail,
and it is called a winter at wondrous scale.

Abū Ḥanīfa rendered *'ā'ili* in the third rhymed phrase as *'iyāli*, which changed the meaning from “family heads” to “households”. Al-Marzūqī recorded a version that followed that of Abū Ḥanīfa, including the change to “households”, but he added two more changes (1914, 2: 183). These included the omission of *sh-shaykha* in the second phrase, which removed “the frail” as the direct object, and the replacement of *qīla shatwatun* in the last phrase with *qabala shaqwatan wa*, which changed the meaning of the whole phrase to “and they received adversity and wonder beyond the pale.”

Summary and Implications

In the rhymed prose for the Scorpion as a whole, the early account of Qutrub contained four rhymed phrases that were mostly retained by the later authors, with some variations, one omission by Abū Ḥanīfa, and one added phrase in the account of Ibn Qutayba. However, the rhymed prose for the four parts of the Scorpion saw varying degrees of change over time. The Pincer had a brief piece of rhymed prose recorded by Qutrub, but Ibn Qutayba and Abū Ḥanīfa recorded an entirely different piece of rhymed prose with five phrases. Both of these variations were later combined in the record of al-Marzūqī. In the case of the Crown, the initial piece of rhymed prose recorded by Qutrub also disappeared in the versions recorded by Ibn Qutayba and Abū Ḥanīfa, but it did not reappear in the work of al-Marzūqī. In the case of the Heart, the piece of rhymed prose recorded by Qutrub persisted as the core around which additional rhymed phrases were added and recorded by the later authors. Finally, rhymed prose for the Raised Tail was not recorded by Qutrub at all, but the versions recorded by Ibn Qutayba and Abū Ḥanīfa persisted with some changes in the record of al-Marzūqī.

The different ways in which the initial pieces of rhymed prose were modified, expanded or shortened provide insight into the processes of change within cultural systems of astronomical knowledge. The persistence of the core piece of rhymed

prose for the Heart when similar pieces for the Pincer and Crown did not persist continuously suggests that it may have been more firmly rooted in the culture, perhaps on account of the Heart being represented by the brightest star in the celestial complex of the Scorpion. On the other end of the spectrum, the absence of rhymed prose for the Raised Tail in the early work of Quṭrub suggests that it was not yet prominent enough within society to have a piece of *saj'* associated with it. Continuing research into the more than 60 additional pieces of rhymed prose for other star groupings may yield results that illuminate these processes of change.

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