Khayyam's Arabic poems

• A. Ibn al-Rasoul

In this paper, after presenting some preliminary details about Khayyam's familiarity with the Arabic language and its literature, the author analyses some of his Arabic poems and compares them with his quatrains. With a little caution, it can be said that Khayyam's poems in Arabic reflect the general viewpoints of his Quatrains.

The author also presents a new source for one of Khayyam's Arabic poems and cleaves the following conclusions:

1- Some of the Arabic poems attributed to Khayyam may be spurious.
2- Khayyam wrote under the influence of previous and contemporary Arab poets.

An Evaluation of Khayyam's Thought on the Basis of the Corpus of his Authentic Quatrains

• M. Mahouzi

There is no thinker like Omar Khayyam. Likewise, there is no poetry which invites us as much to dialogue, discussion, and translation as do his Quatrians.

We believe that the study of Khayyam's thoughts should be based on the corpus of his authentic Quatrains.

In order to distinguish the Quatrains that were written by Khayyam from the ones written by other poets, it is necessary to separate all of them by means of different filters.

In this paper we provide 10 filtering parameters for identifying Khayyam's authentic Quatrains. With the aid of these parameters, 60 Quatrains which play a key-role in Khayyam's thought were selected.

On the basis of these results, it was possible to re-evaluate the understanding of Khayyam's thought in European and Western studies on this subject, from his own lifetime until the present day.

Khayyam and Interlocking Quatrains

- M. Nourian

Nowadays in Iran, each Rubaiy (quatrain) is regarded as a poem in its own right and a complete poem in itself. For this reason each of Khayyam's Rubaiyat is separated from the others without any vocal or subjective linkage to them.

Whenever a collection of Rubaiyat was published, they were arranged in a fixed alphabetical order or according to rhyme.

This rule, however does not make good sense. In this article we look at the development of the Rubaiy in Persian poetry and we shall present some examples from other Iranian poets to prove that Khayyam's Rubaiyat are often thematically interlinked.

An Important Work on the Rubaiy

- J. Soroushyar

The Rubaiy (quatrain, plural Rubaiyat) is a purely Persian poetic genre and not a borrowing from Arabic literature, as were the formal ode (qasidah) and the love lyric (ghazal).

The most famous example of this genre known in the Western World are the *Rubaiyat of Khayyam.*

This paper presents one of the most complete prosody resources concerning the Robaiy.

This work was written in Persian by Molavi Mufti Mohammad, an Indian scholar of the 19th century.

The Early Translations of Khayyam's Quatrains

- A. Ibn al-Rasoul

In this article, after introducing the first translations of Khayyam's quatrains in European and Arab countries, the author will discuss two ancient Arabic translations of Khayyam's Quatrains.

One of them stems from the 13th century (A.D.) and was written by Nezamoddin Isfahani, a bilingual poet from Iran. Evaluation of these two translations will reveal some interesting results.

reckoned from the Hegira. The article will close with some examples.

Omar Khayyam and Real Numbers

• Yahya Tabesh

Omar Khayyam, the 11th century Persian mathematician and poet, developed the first rudimentary notion of real numbers in his *Commentary on the Difficulties in the Postulates of Euclid's Elements*. He first showed the equivalence of Euclid's notion of ratios with that of continued fractions. Then, in a stroke of genius, he defined two ratios as equal "when they can be expressed by the ratio of integer numbers with as great a degree of accuracy as we like". This discovery thus contained the first notion of a real numbers and the germ of the concepts of computability and computation up to any precision.

Omar Khayyam et Abu'l Ala al-Maari sont-ils hérétiques?

• Jafar Aghayani-Chavoshi

Un article de H. Shaygan et P. Shirvani publié dans un ancien numéro de la revue *Rodaki* (no. 74) présentait Khayyam et Maari comme deux poètes hérétiques. Cette accusation nullement justifiée ne se base ni sur des témoignage historiques ni sur les œuvres authentiques de ces poètes musulmans. Les auteurs de cet article induisaient en erreur leurs lecteurs par des citations fausses ou incomplètes en attribuant à Khayyam et Maari ce qu'ils n'ont pas dit et en introduisant dans leurs œuvres ce qui ne s'y trouvait pas.

Bien entendu, un tel article qui affirme sans rien prouver, et nie sans raison valable, n'a pas de valeur aux yeux de la science.

C'est pour cette raisin que nous l'avons réfuté dans le présent article par une argumentation logique, tout en montrant que Khayyam et Maari, loin d'être hérétiques, étaient des hommes pieux qui croyaient en Dieu unique – Dieu de l'islam.

The Role of Nowrouz in the Iranian Calendar and its fixation at the Vernal Equinox by the Application of Khayyam's Astronomical-Mathematical Formulae

• A. Nabaee

The main aim of this article is to underline the following three features:

1. Omar Khayyäm's mastery of astronomy and mathematics;

2. To describe the direct effect of the principles and mathematical formulae set forth by Khayyäm, the Iranian scientist, on fixing the turn of the year at the beginning of the Vernal Equinox.

3. The Solution of the problem of calendar-writing in ancient Iran on the principle of the rotation of the earth around the sun as witnessed in Khayyami's leap-year tabulation.

Therefore, in order to better understand the importance of the subject, I will first point to methods of time-measurement and the history of the appearance of the calendar in ancient Iran and speak of Nowrouz, because Nowrouz is the beginning of the ancient Iranian calendar – the Mazdaian calendar was based on it. The method time-measurement determined the accuracy of the timing of Nowrouz ceremonies, not only for one particular year, but for all the following years, because lack of precision in calculations for one year would not only result in a confusion of time-measurement in that particular year, but it would have the same undesirable results in the following years, and eventually all the political, social and financial implications would be badly affected (we will look at some examples in this article.) Next, I will summarily point to pre-Khayyam efforts in this respect which were unsuccessful. It was, in fact, only in the second half of the fifth century H.Q. that this problem was solved, due to the efforts made by the astronomers of that period, headed by Khayyam. A table called Khayyam's Table was produced, according to which, through the observance of leap-years, the precise time of Nowrouz (The Iranian New year's Day) was determined. Hence, the beginning and the end of each year were determined accurately by the entrance of the sun (originally the entrance of the earth) into the sign of Aries; thus, the moment of the Vernal Equinox was determined. Subsequently, the Jalali Calendar was compiled by Khayyam and provided a foundation for the Solar year in Iran

Summaries of the Persian articles

Omar Khayyam Théoricien Des Équations Cubiques

• Jafar Ahgayani-Chavoshi

Le célèbre problème d'Archimède a conduit les mathematiciens islamiques à la resolution d'une equation cubique. Ils l'ont résolue finalement par les sections coniques. Cependant, ils se contentaient de succèss partiels, c'est-à-dire de la solution d'un problème geométrique. Omar Khayyam contrairement à ceux-ci, tout en abandonnant le problème en question s'attache aux équations cubiques pour elle-smêmes afin d'en donner une théorie consistante. Cette théorie se résume en représentation canonique des équations cubiques, arrangement homogénéisé des termes, résolutin géométrique à l'aide des sections contiques et discussion pour l'existence des racines.

Some Applications of Khayyam's Triangle in Islamic Patterns

• Akbar Zamani

In invaluable paper by professor Alpai Ozdural (*Farhang*, Vol. 14, No. 39-40, winter 2002 PP. 189-254) we acquainted with "Khayyam's Triangle" and its applications in Islamic ornamental art and architecture. In this article, four Islamic decorative patterns in which Khayyam's Triangle was used are referred to.