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# Omar khayyam in astronomy and literature, regarding to its effect in Persian culture

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Mahdi Rokni

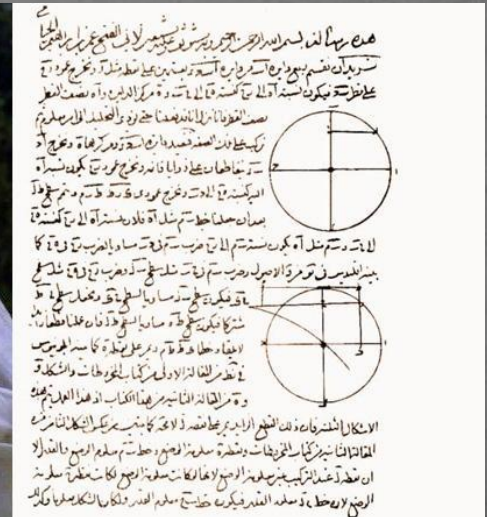
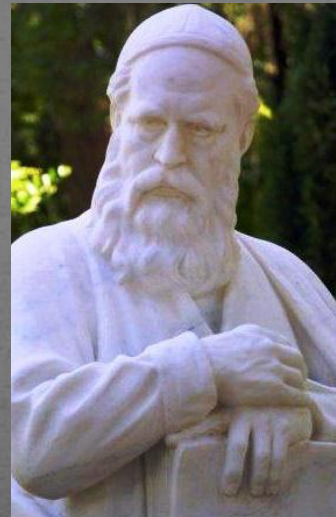
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# Abstract

- Ghias al-Din Abu al-Fatah Omar ibn Ibrahim Khayyam Neyshabouri (Omar Khayyam) was a persian polymath, mathematician, astronomer, philosopher, and poet. In this study we review his personal life and achievements, relation between his poetry and astronomy. We also study the architecture of his tomb.
- Omar Khayyam (1048-1131) was born in Zebar-khan in Mamorie village south of Ghadamgah- Neyshabur. He was skilled in politics, mathematics, philosophy, theology, mysticism, astronomy and literature.



## *Omar Khayyam, mathematics and astronomy*

- Omar Khayyam Knew the science of trigonometry and created Khayyam triangle, also known as Pascal triangle. He used the sphere and poles of Earth created by Abu-Ali Sina and The Remaining Signs of Past Centuries book by Abu-Rayhan al-Biruni to design Jalali calendar and also measured the length of a year 365 days and 5 hours and 48 minutes and 46 seconds; his calendar was precise just 1 second every 30 years.

## *Omar Khayyam, mysticism and philosophy*

- Omar Khayyam was disciple of Abu-Ali Sina who was disciple of Aristotle and Plato. Plato believed in idealism and rejected evidence of negation of God according to rationalism. Omar Khayyam not only believed that God is the creature of whole universe but also believed in power of nature in human destiny; He was a naturalism.

# Omar Khayyam and literature

- As Omar Khayyam was a disciple of Abu-Ali Sina and his philosophy stressed the impermanence of the world so he insisted on being happy. As he was an astronomer, astronomy had a huge influence on his poetry.

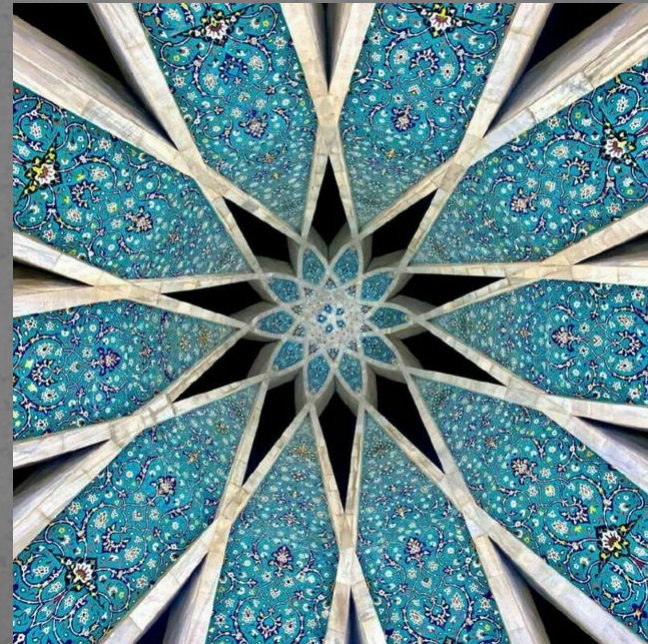
This one of the poetry of Omar Khayyam in which evidence of astronomy is noticeable.

*"This turning wheel in which we are perplexed compare to a magic lantern: The sun: a lamp, the world: a lantern And we ourselves as rotating forms."*



# *Omar Khayyam's tomb*

- Omar Khayyam's tomb was first built by order of Reza-Shah in 1934; 29 years later Hushang Seyhun, a very famous and experienced architect design a new tomb for Omar Khayyam which was based on his thoughts. His tomb has tower with a height of 32 meters with 10 bases which are represents of two-digit numbers. The court symbolizes the sun from the inside and the wine cup from the outside.



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