Maragheh [märägä']

Maragheh (also known as Maragha), is a city in northwestern Iran with 170,000 inhabitants (2003 estimate) at an elevation of 1,619 m above sea level, in the province of East Azerbaijan, and 22 km east of Lake Orumiyeh.
The region is a fertile valley on the southern slopes of Mount Sahand whose ridge 3,722 m above sea level protects the town from the harsh winter cold experienced in Tabriz. The town's valley is watered by the Safi Chai River.

For nearly a decade the Alavian Dam in north-west of the town acts as the reservoir for the water from Safi Chai. Maragheh is the trade and transportation center of a rich agricultural region producing fruits, and exporting dried fruits. It is linked by road and railways to Tabriz, 130 km north, and Teheran, 700 km east. The Airport of Maragheh receives three weekly flights from Tehran and vice versa.

Maragheh is very rich of natural resources. Different and vast fruit gardens surround the city. In the central part of the city the old architectural structures are still preserved. The tranquility and privacy of the old houses with great yards full of green plants, flowers and fruit trees provide wonderful and fantastic moments specially in dawn and late in the evening to relax, enjoy and think about the beauty and charm of life and existence. This is the specific frequent experience and memory of the writer in addition to other sweet and odd memories when living in Maragheh in childhood and teenage. There are also many leisure places around the city among which the mineral water springs such as Varjovi, Gushayesh, Sari Su, Shour Su, and Okouz Boughaz worth to be mentioned. There are very many picturesque areas around the Alavian Dam that attracts the attention and interest of the visitor.

Past at a glance
Maragheh is one of the oldest and the most historical valuable towns of Iran. In 7th century the region of Maragheh is conquered by Arab Muslims. During the liberation battles of Babak Khorramdeen with the Arabs, the town was the headquarters of the Arab army. After the Arab conquest in the 7th century Maragheh developed rapidly as a provincial capital. In 1029 it was seized by the Oghuz Turks (Seljuqs), who developed it into an important city, but they were driven out by a Kurdish chief who established a local dynasty. The city was destroyed by the Mongols in 1221, but Hulagu Khan held court there until the establishment of a fixed capital at Tabriz. In 1256, Maragheh became capital of the Il-Khan dynasty ruling over most of Persia. The city was temporarily occupied by Russia in 1828. From 1914 to 1917, Maragheh was the site of fighting between the Ottomans and the Russians; the fight that stopped as a result of the Bolshevik Revolution in Russia in October 1917. During the World War II, Maragheh was under the governance of a local state that was supported by the former Soviet Union for nearly a year.
There are still many historical remaining from Hulagu Khan Period in Maragheh. From the many historical places of Maragheh the following could be mentioned:

- The Historical Castle of Qizlar Qalasi which belong to the later Sassanid and the earlier Islamic period.
- The Remnants of the Maragheh Observatory which belong to the Hulagu Khan period
- Five Domes called Sorkh (Red, that was build in 1147), Kabud (Gray), Modawwar (Circular), Ghaffareyyeh, and Guei Borj (Blue Tower) which belong to the Moguls period from the 12th and 13th centuries
- Famous Cave of Kabootar which is located in the south-east of Maragheh

- Old Mosques of Molla Rustam, Moezel Deen, Shaykh Baba, as well as the Maragheh Jami’ Mosque, all belong to different Islamic periods
- The Tomb of the famous Azerbaijan poet, Owhadi Maragheh
- Mehr Temple that belongs to the 7th Century B.C.
Maragheh Observatory

Maragheh basically has a firm connection with the Mongols, who made it the capital of Azerbaijan for some time, presumably due to the excellent grazing for their countless horses, and between 1260-72, in the time of Hulagu, built an astronomical observatory and a university for Khajeh Nasir al-Din al-Tusi, in 15 years and within a distance of 2 km to the west of the town. Khajeh Nasir al-Din al-Tusi, born in Tus, near Mashed in 1200, used Hulagu's belief in astrology. He convinced Hulagu that he could only guide the destiny of the Mongols (who had rescued him from the assassination at Alamout, in Qazvin) if a huge observatory and a library to house his 400,000 volumes were constructed. With it were associated the endeavors of numerous scholars, whom Khajeh Nasir al-Din mentions in Zij-e Ilkhani, an astronomical almanac. This eminent scholar wrote 56 books most of which are in Arabic, then the language of Near Eastern science, however, Khajeh Nassir ud-Din also wrote poems in Persian.

Khajeh Nasir al-Din al-Tusi
(1201 – 1274 A.D.)

Maragheh Observatory had been the first largest center in the world before the use of telescope in astronomical studies. Observatories in Samarqand and India had been modeled upon Maragheh Observatory. The observatory that was designed and constructed by Nasir al-Din al-Tusi had been a treasury of archeology and science. The observatory became operational in 1262. Interestingly the Iranians were assisted by Chinese astronomers in construction and operation of Observatory that is the indication of the interest and attention to the international cooperation and understanding at that time. The Observatory had various instruments which was the invention of Khajeh Nasir himself. He also designed other instruments for the Observatory which was far more than a centre for astronomy. The books of the library were on a wide range of scientific topics, while work on science, mathematics and philosophy were vigorously followed there. It is worth to say that al-Tusi made the most significant development of Ptolemy's model of the planetary system up to the development of the heliocentric model in the time of Copernicus, as mentioned in the Copernicus "De Revolutionibus".
Maragheh Observatory had been active until about seven centuries ago. It turned into the ruin as a result of frequent earthquakes and lack of state care in different eras. After suppressing the riot of Mokri Tribe supported by the Ottoman Sultan Morad the Third, Shah Abbas the Great arranged for repair of the observatory, however, this was not commenced due to the king's early death. Presently the remnants of the observatory from 1259 can be found outside the city over the hill of Taleb-khan at the west of Maragheh. In recent years the government pays attention to protect the remaining ruins of the observatory; the area of the observatory is presently covered by a semi spherical structure that can be seen from remote distance. This structure protects the remnants from different risks such as seasonal and climate changes.
Maragheh Observatory over the Taleb khan Hill

Maragheh Museum
Already closed, the museum was originally part of a library situated next to the mausoleum of the Iranian poet Owhadi Maragheh'ei. It has been transferred to a museum and opened to the public since 1976. The museum is divided into three sections namely (a) Prehistoric Section, (b) Parthian Section, and (c) Sassanid Section. In the museum also numerous coins from the Islamic era, including Umavid, Abbasid, Safavid, and Qajar periods is being exposed to visitors.

References
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6. http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Ptolemy.html
7. http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Copernicus.html

Useful and relevant links
• http://www.maragheh.org
• http://www.riaam.ac.ir
• http://www.jamejamshid.com
• http://www.mupad.com/mathpad/2004_1/visual_maths
• http://www-history.mcs.st-andrews.ac.uk
• http://www.astronomy.com
• http://www.dustbunny.com/afk/
• http://www.astronomy.net/
• http://www.cyberistan.org/islamic/
• http://www.nationmaster.com/encyclopedia/List-of-Iranian-scientists