

The History of Time

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The History of Time

By S.M. Sheikh

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



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<http://blog.jannahsteps.com/2011/01/1001-inventions-in-new-york-city/>

3500 B.C.

The **obelisk** (used by the Egyptians)
is one of the first clocks.



<http://tngenweb.org/darkside/egyptian.html>

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1500-1510
Peter Henlein
Of Germany

Spring Powered Portable Clocks

1656
Christian Huygens
Dutch
Pendulum Clock

1750
Benjamin Banneker
Maryland, USA
Built the first automatic clock in
North America



<http://www.surveyor.in-berlin.de/himmel/Bios/Huygens-e.html>



Blackinventor.com



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<http://thepeopleofpakistan.wordpress.com/2010/03/14/how-islamic-inventors-changed-the-world/>



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http://classicartreplicas.com/egyptian_obelisk.html

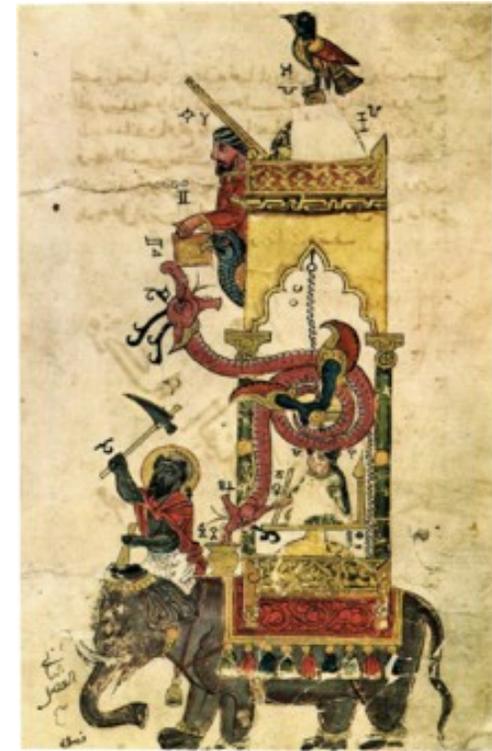
1500 BC

Egyptians used **sun dials**
to tell time.



<http://amaickinghezekiah.blogspot.com/2012/01/isaiahs-miracle-of-sun-for-king.html>

water-powered time inspired by an Indian mechanism called ghatika. Combined with this is an Egyptian phoenix, Greek hydraulic technology, Chinese dragons, and an Indian elephant. Every 1/2 hour the time sets off a series of sounds and movement.



<http://en.wikipedia.org/wiki/Al-Jazari>

Al Jazari
Turkey
1136-1206

Not only did he make the first automatic clocks, he made the 1st programmable robots.

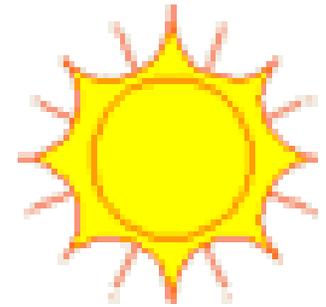


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http://www.sultans-of-science.com/resources/index_dynamic/KAUST%20MOSTI/Technology/list/182/detail/

He is most famous for his elephant clock. An exact working replica stands in the Ibn Batutta Mall in Dubai, UAE.

The moving parts are automated using



<http://www.coolquiz.com/trivia/explain/docs/sundial.asp>

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1500 BC

The **hour glass** and **candles** were used by the Egyptians to measure time.



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http://www.visioninconsciousness.org/Ancient_Civilizations_45B.htm

10th Century
Mariam Al-Astrulabi
Of Syria

Built some of the most beautiful and elaborate astrolabes of her time.



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<http://www.muslimheritage.com/article/fstc-launches-new-version-muslim-heritage-website/gallery/2065>

1500 BC

**Mechanical Geared Astrolabe by
Muhammad b. Abi Bakr**
pictured below



[http://www.mhs.ox.ac.uk/collections/imu-search-page/record-
details/?thumbnails=on&irn=2217&TitInventoryNo=48213](http://www.mhs.ox.ac.uk/collections/imu-search-page/record-details/?thumbnails=on&irn=2217&TitInventoryNo=48213)

Water Clock

Invented by Amenemhat found in the tomb of the pharaoh Amenhotep I of the 18th Dynasty. It was a stand with a pot on the top and a pot at the bottom of the stand. The pot at the top of the stand had a hole drilled in the side. This pot was then filled with water and the water would flow out of the top pot down to the bottom pot. When the water was at a certain level, it was a certain time. Markings on the side, at even intervals, indicated the passage of every twelve hour. Water clocks measured time, in all seasons, and even during the night. Another type of Water Clock had a float in the water. The float is connected with a 'hand' indicating the time on a board.

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<http://www.eternegypt.org>

600 BC

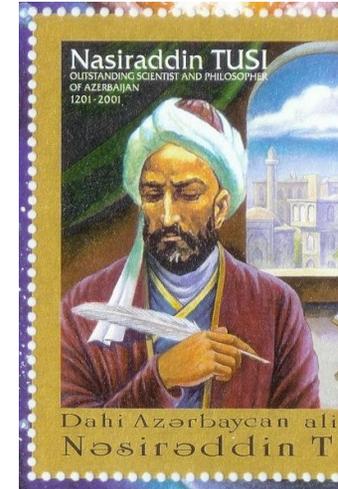
The **Merkhet** is used in Egypt to measure night hours and align the foundations of the pyramids and sun temples with the cardinal points.



<http://serostar.com/cosmic/gallery.php>

Ancient Egyptians called the merkhet "the instrument of knowing". Made from the central rib of a palm leaf, the merkhet uses a string with a weight on the end to measure a straight vertical line. A pair of merkhets were used to establish a north-south line by lining them up with the pole star.

Sharaf al-Din al-Tusi's full name is Sharaf al-Din Al-Muzaffar ibn Muhammad ibn Al-Muzaffar al-Tusi.



http://apprendre-math.info/anglais/historyDetail.htm?id=Al-Tusi_Nasir

The Staff of al-Tusi Pictured below



<http://www.mmastrosociety.com/English/AstronomicalDevices.html>

Contribution to the Astrolabe

Al-Nayrizi (892-902)

Iran

Spherical Astrolabe

Abi Bakr of Isfahan (1235)

Iran

1st geared mechanical astrolabe

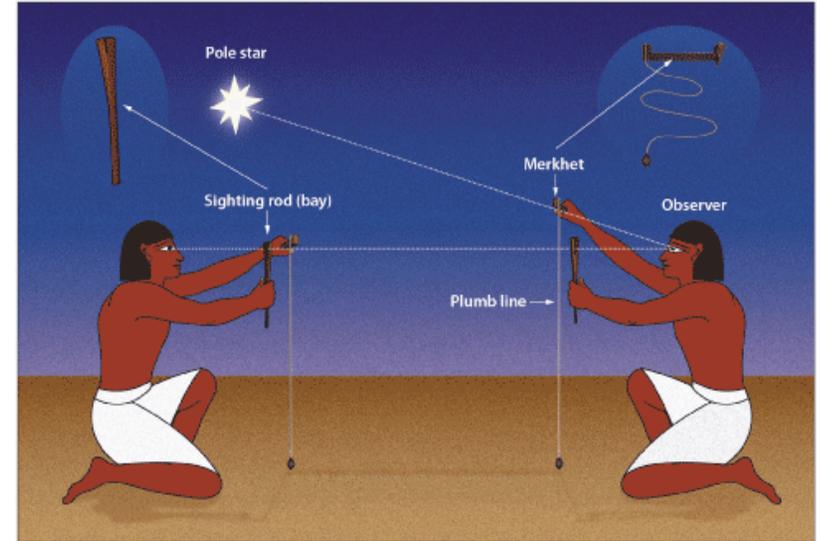
Sharaf al Din al Tusi (1259)

Iran

Staff of al-Tusi



<http://vellum-speaks-silicon-listens.tumblr.com/post/17904618597/heres-an-example-of-the-spherical-astrolabe-15th>



http://www.amsi.org.au/ESA_middle_years/Year9/Year9_md/Year9_2c.html

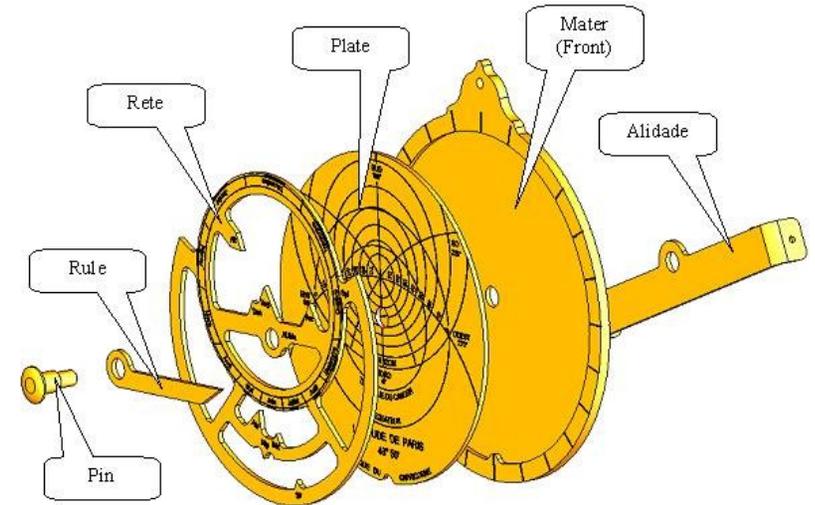
150 BC

An **Astrolabe** is an inclinometer (calculator) used by astronomers, navigators, and astrologers. It tells time, horoscopes, surveys, triangulations, and predicts positions of the sun, moon, planets, stars, qibla, salat times, and sacred days such as Ramadan & Eid.

The oldest treatises are found in Alexandria (Egypt) and Babylon (Persia). Hipparchus of Nicaea (born in Turkey) using information from Alexandria and Babylon, wrote extensively about the astrolabe.



<http://astronomy.swin.edu.au/cosmos/A/Astrolabe>



<http://dutarte.perso.neuf.fr/instruments/how%20to%20use.htm>



<http://blog.sciencemusings.com/2008/04/whatever-happened-to-astrolabe.html>