

35 YEARS OF BAADER PLANETARIUM

proved our concept of **including the heliocentric as well as the geocentric way of viewing** in one planetarium to be a very successful basis for introducing students into space science and astronomy. There **is no other instrument** available, developing and demonstrating from earth's **real motion** (the diurnal rotation and the annual revolution) so obviously the apparent diurnal and annual movements of sun, planets and fixed stars.

As a result of such demonstrations with a BAADER PLANETARIUM, we reformulated the crucial knowledge of ARISTARCHUS OF SAMOS and NICOLAUS COPERNICUS in regard to the distances between earth, sun and fixed stars, so that we say: **"The distance between earth and sun (150 million km) is a nearly zero, compared to the distance between earth and fixed stars."**

In using the BAADER PLANETARIUM therefore the model sun-system (tellurion) must be seen for many geocentric studies and demonstrations **nearly as a point in the center of the celestial globe**. In this way there is at the same time explained the minimal parallax of the fixed stars in contrast to the seasonal height of the sun ("sun's annual parallax"). Moreover, the retrograde motions of the planets are verified as a question of distance.

Under such preconditions a BAADER PLANETARIUM is able to give an ideal introduction into **the positional astronomy** as well as into the basics of the **astronomical determination of longitude and latitude**. Solar time and sidereal time as well as solar day and sidereal day become understandable. Moreover, precession can be demonstrated with a BAADER PLANETARIUM as the changing direction of the earth axis and so, the night heavens for the **time at the birth of Christ** can be shown or **one may verify HOMER** when he writes in the "ODYSSY" that "the Bear, named from others as the Wain" was a circumpolar constellation 3000 years ago for mediteranean latitudes.

As everyone will agree, a BAADER PLANETARIUM seen that way is for astronomers as well as also for teachers something else than a toy. Having in mind the projection capabilities and the possibility of using our projection cupolas of 2,5 or 3,5 meters in diameter together with a BAADER PLANETARIUM, our instrument is the cheapest small planetarium the world over.

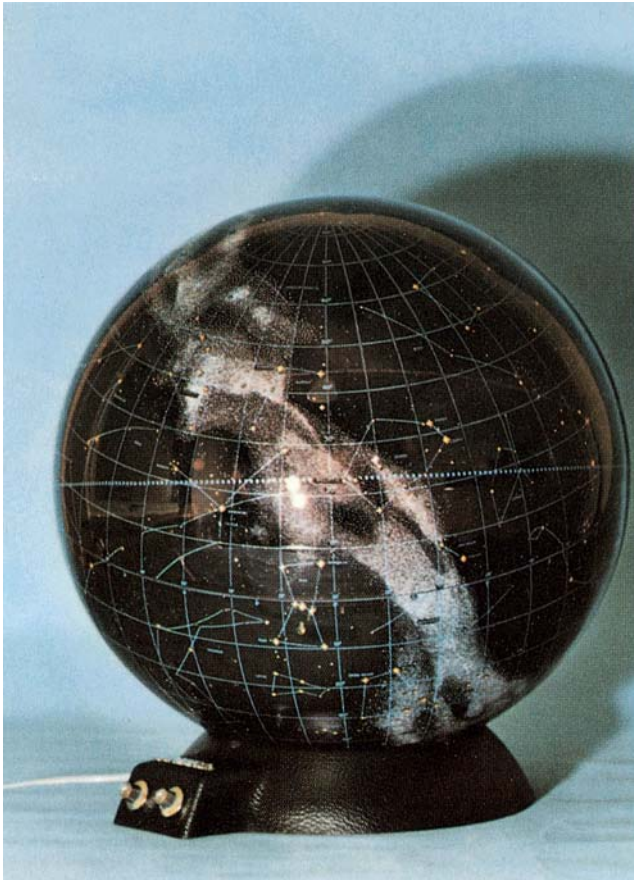
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BAADER PLANETARIUM GMBH

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OBSERVATIONS AND DEMONSTRATIONS WITH A BAADER PLANETARIUM



PRIMARY SCHOOLS:

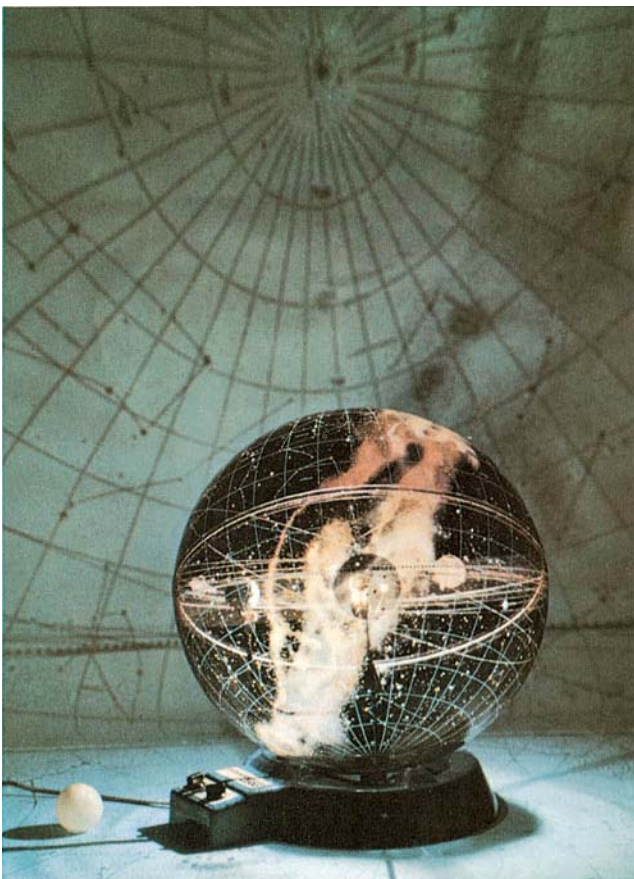
- Earth's revolution around the sun (annual movement)
- Direction of earth's axis towards the celestial pole (seasons)
- Earth's rotation around its axis (day and night, worldtime)
- Changing length of day and night (summer day, winter day, polar day, equatorial day)
- Moon's orbit around the earth (full moon, new moon, phases of the moon, lunar eclipse, solar eclipse)
- Polar orbit of a space ship
- The changing of the seasonal night skies (resulting from the earth's revolution)
- The hourly movement of the night skies as result of earth's rotation

SECONDARY SCHOOLS:

- The earth indeed hangs in space and rotates around its axis (observation of the astronauts)
- The derivation of the apparent movements of sun, moon, planets and fixed stars from earth's real motion, visible in the planetarium
- The changing of the lunar nodes
- The horizon, depending on our position on earth
- Celestial equator and ecliptic
- The celestial globe as spherical star map, magnitudes of stars and the constellations
- Adjustment of earth and star globe to the actual heavens

HIGH SCHOOLS AND UNIVERSITIES:

- Precession, different calendars (lunar year – solar year)
- Solar time and sidereal time, solar day and sidereal day, to be counted out from the model earth
- Positional astronomy and astronomical determination of longitude and latitude deduced from heliocentric observations
- The several systems of coordinates
- Different ways of viewing by changing the reference plane (horizontal ecliptic – horizontal celestial equator)
- Parallaxes in nature, parallaxes in the planetarium
- Horizon, star tracks, sun's track
- Projection with the planetarium, adjusting the star-globe to the skies for every position on earth and any time of the year, basics of navigation



baader®
planetarium