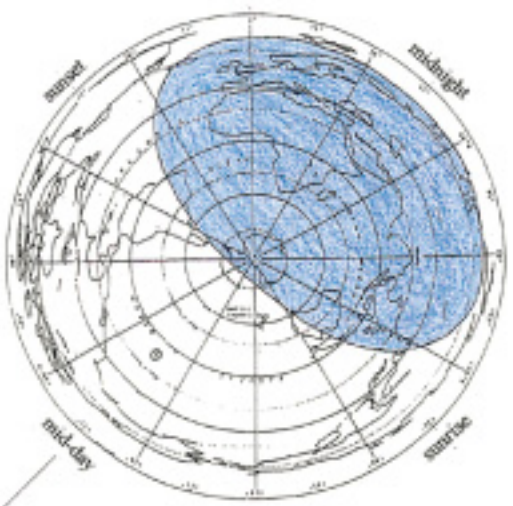
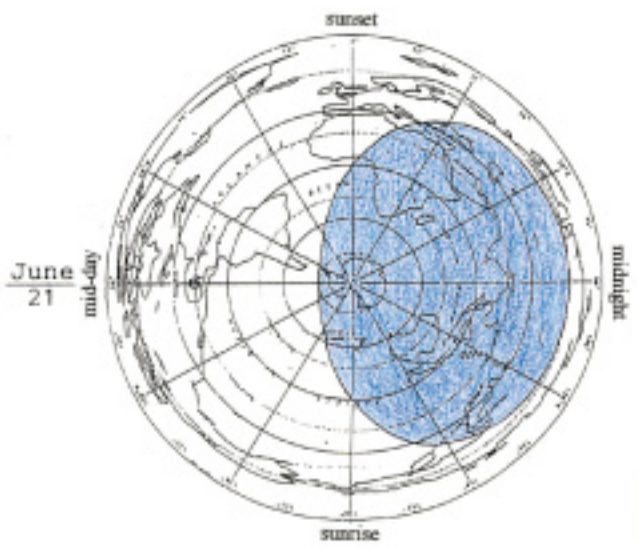
Diagram of the Celestial Year-Clock



May 6

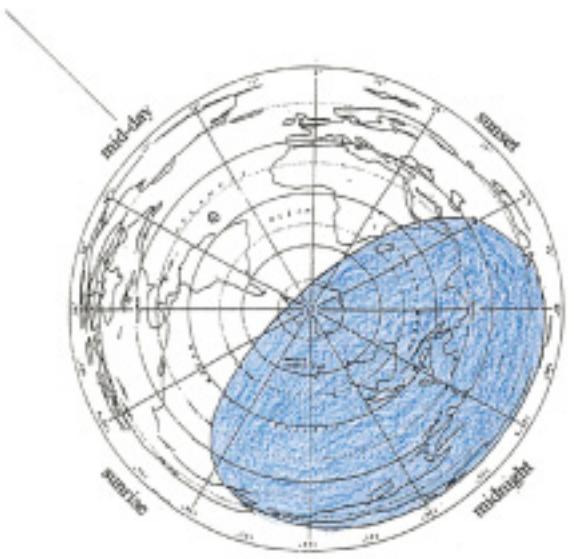
The earth's rotation round its tilted (23.5°) axis and the orbit of its revolution round the sun form the imaginary face of the celestial year-clock in space. This is depicted in the sequential diagrams of the eight antipodes maps. The maps differentiate the seasonal intervals of time, as each map can clearly define the migration of the daytime and night-time hemispheres which are the true indicators of time and the seasons. This migration is caused by the parallel rays of the sun shining on an earth that is orbiting round the sun while rotating simultaneously on its tilted axis. The migrating hemispheres are separated by a single great circle in each map. Notice how the hemispheres migrate between the poles and the arctic and antarctic circles from one season to the next. All the antipodes maps are positioned in the same direction in order to make it easier to visualise the migration of the daytime and night-time hemispheres through the seasons. The characteristics of the antipodes map described earlier have relevance to all these maps. Details of the intermediate positions of the earth for the seasons in the year-clock are given in the maps for February 4, May 6, August 6 and November 6. Only during the equinoxes does a polar circumference (a meridian and its anti-meridian) separate the daytime and night-time hemispheres, and the sun shines along the whole length of a meridian at midday. But at other times the sun shines over part of a meridian and its anti-meridian at midday. This is clearly visible from examining the celestial year-clock.



"The land of the midnight sun" and the relating of date and time with reference to the northern summer (June 21)

It is mid-summer in the northern hemisphere with the sun zenithal above (23.5°N, 90°W). Notice that the night-time hemisphere has migrated from the poles (March 22) to touch the arctic and antarctic circles at 90°E and 90°W respectively. From this position it will migrate back to the poles (September 21) with the earth's revolution. Notice that the region known as "the land of the midnight sun" is within the daytime hemisphere even at midnight, which will be in about four hours time from the map. Hence the sun will be visible there along the horizon at midnight.

The one day date differential should be borne in mind with reference to the International Date Line which is a demarcator of time. If it is mid-day in London then it is midnight of the same day in the Antipodes Island. A minute past this time the Antipodes Island could well be among the few leading places to herald the new day. From the map it is sunrise (06 hrs.) in Antipodes Island on June 22, (09 hrs.) in Juneau on June 21, mid-day (12 hrs.) in Memphis on June 21, (15 hrs.) in Julianehaab on June 21, sunset (18 hrs.) in London on June 21, (21 hrs.) in Baghdad on June 21, midnight (24 hrs.) in Dhaka on June 21 and (03 hrs.) in Khabarovsk on June 22. In this same manner the dates and times for the same places during the other seasons in the celestial year-clock can be figured out. The times mentioned for the various places **are approximate geographic earth times (E.T.), not** necessarily the standard times of the places. They are approximate because the places are not situated exactly along the respective longitudinal time indicators, but they are close to them. The times are given with reference to the G.M.T. of London which serves as a time-reference for any place on earth because that particular time is the true geographic E.T. and the standard time of London.



August 6

Reference

- daytime hemisphere
- night-time hemisphere
- ⊙ The point on earth where the sun is zenithally above on the specific date and time.

(Refer to the bigger map featured earlier showing the International Date Line and clearer identification of the places for all these antipodes maps.)