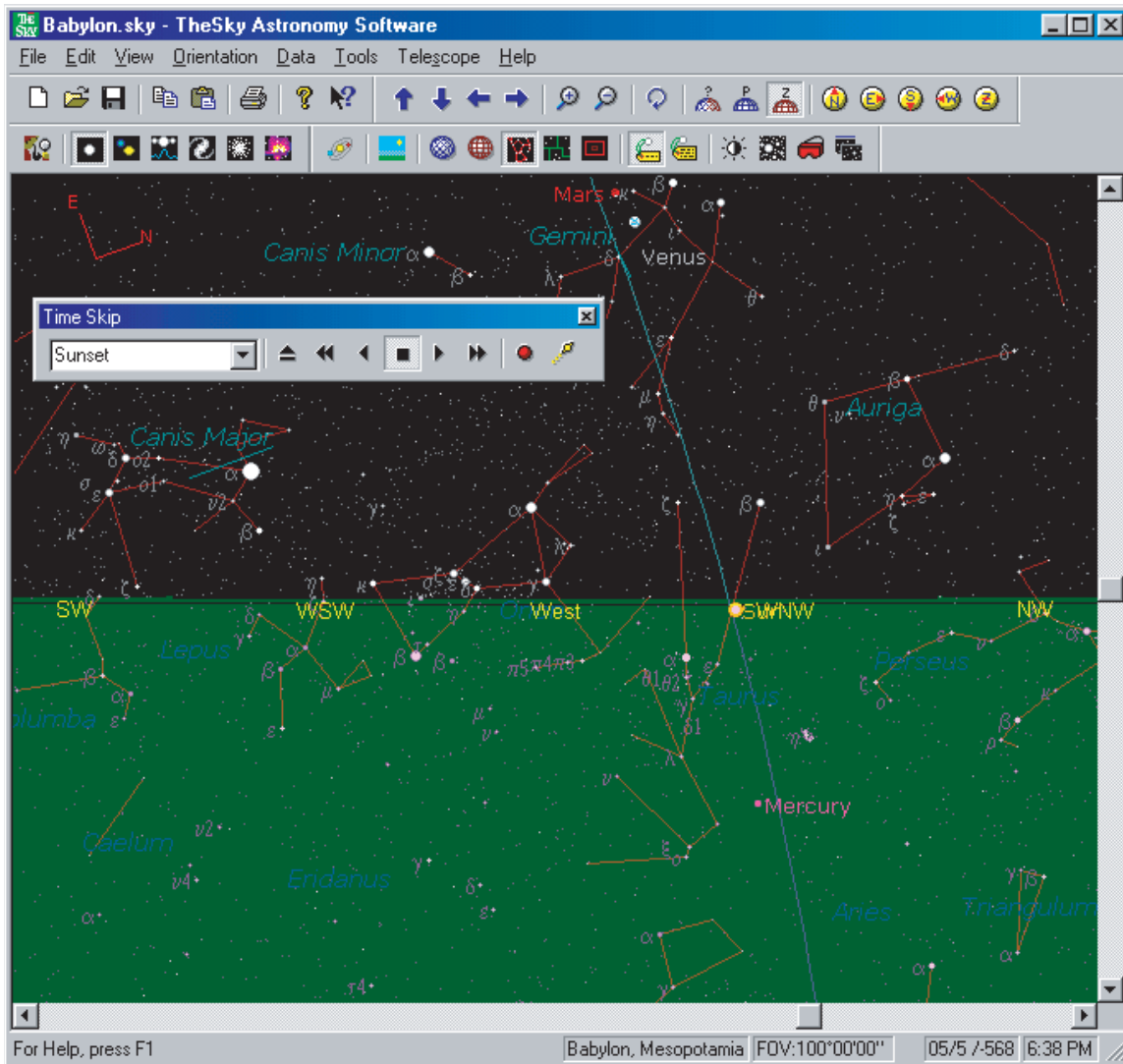# TheSky Software – A Demo

Introduction: TheSky software is a complex program designed to fulfill many astronomical tasks. For an historical study, a simplified setup of the program is desirable. The Demo provides a series of panels with all the settings required to begin using the program. The step-by-step procedure leads to a representation equivalent to the following Skyshot:
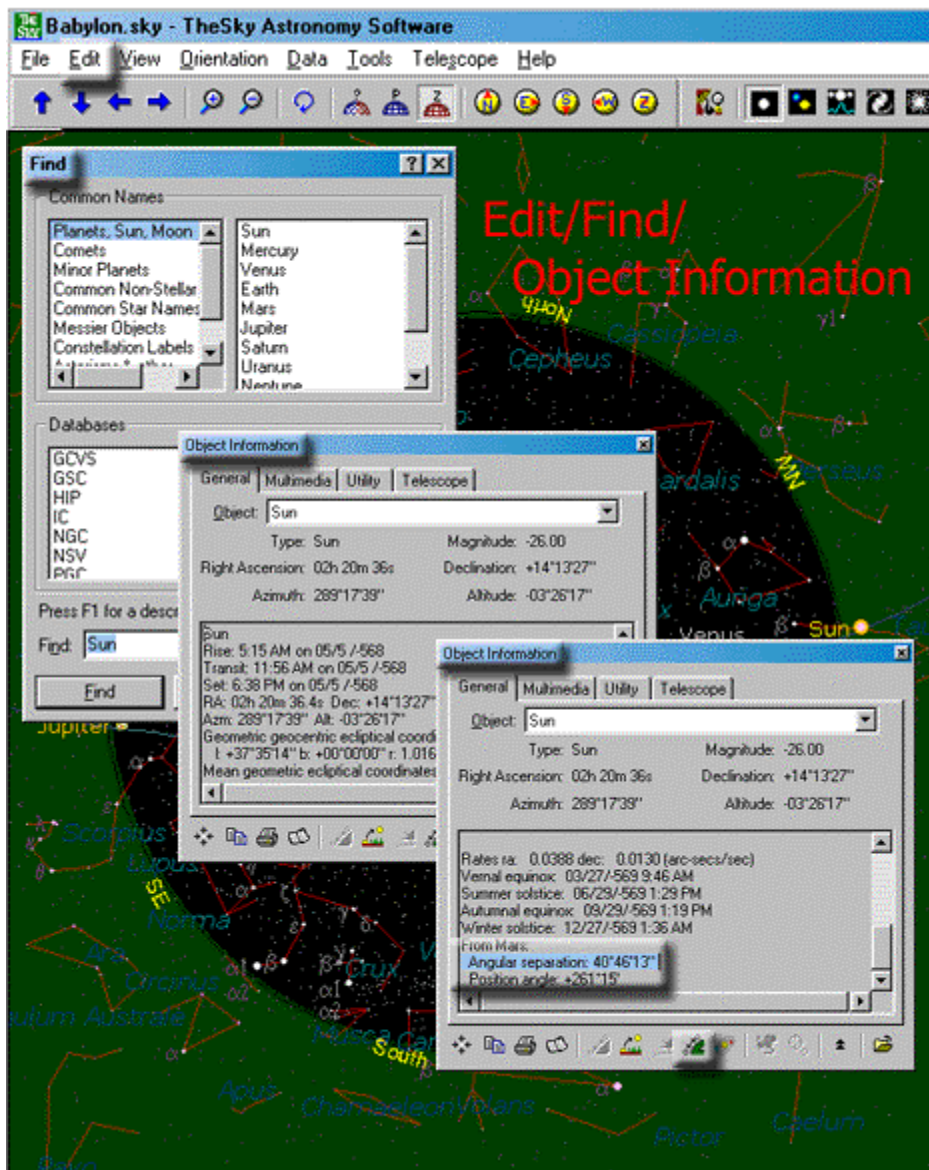

Note the setting sun on the refracted horizon line in the South Southwest direction. The status bar along the bottom of the Skyshot records several variables: 1) the location, Babylon, Mesopotamia; 2) a Field of View of 100º, which is naked eye; 3) the date May 5, -568 historical, which is equivalent to –567 astronomical; 4) and the time of the observation, sunset. The following demo will show how to input these variables into TheSky. Other full-fledged astronomical programs, such as *Starry Night,* would use similar settings.

Edit/Find/Object Information: The **Find** panel provides the means to locate named celestial elements. Numerous entries are found in the *Common Names* panel. The example below depicts the *Planets, Sun, Moon* selected in the top two panels, and the word *Sun* entered in the *Find box* at lower left.
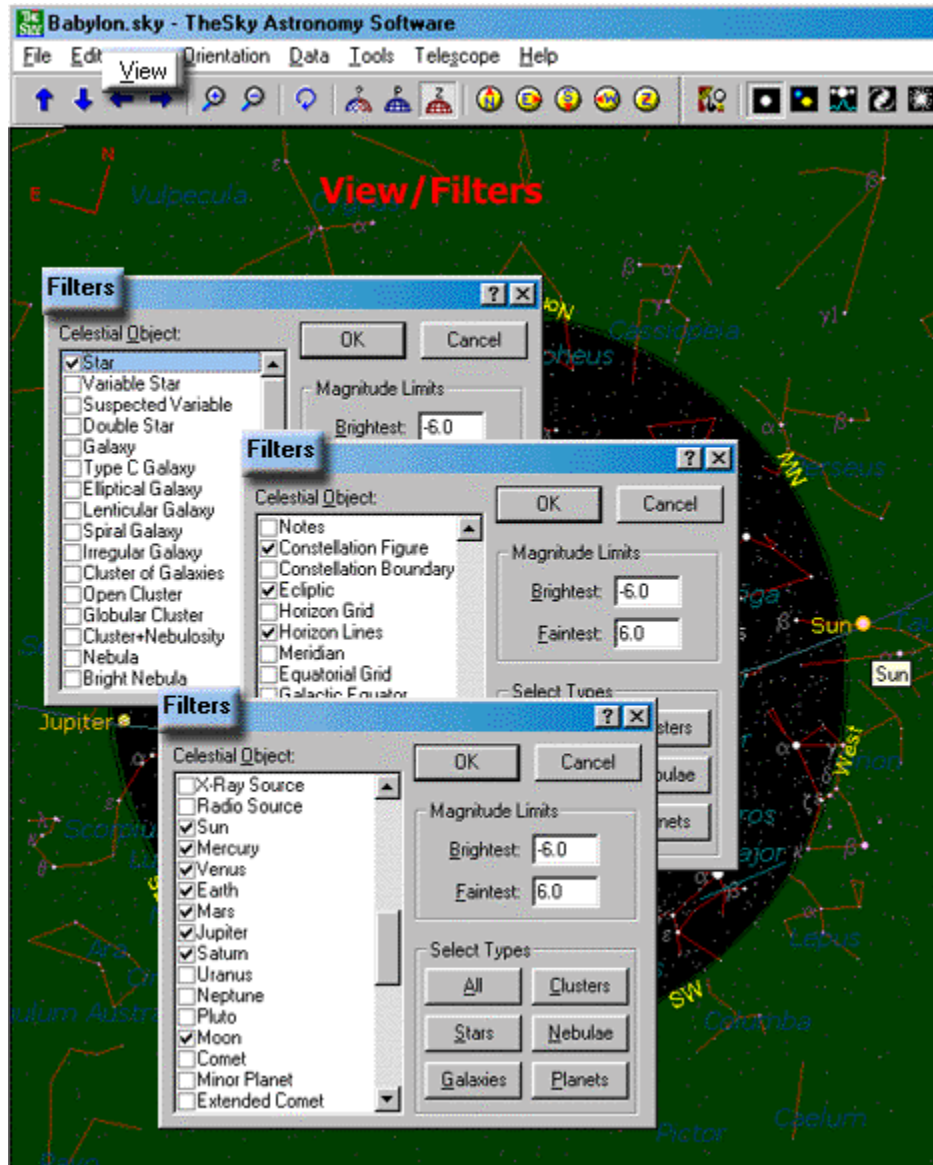
A click of the *Find Button* brings up the **Object Information** panel (shown here as two panels so as to include all the data listed about the sun.) The data presented in the panel pertains to the astronomical configuration of a Skyshot, in this case, the sun at a particular time on May 5, -568 historical (-567 astronomical.)

The **Object Information** panel is a flexible tool of many uses. As shown below, it can provide the **Angular Separation** between celestial bodies – the sun is 40º 46' 13" from Mars.
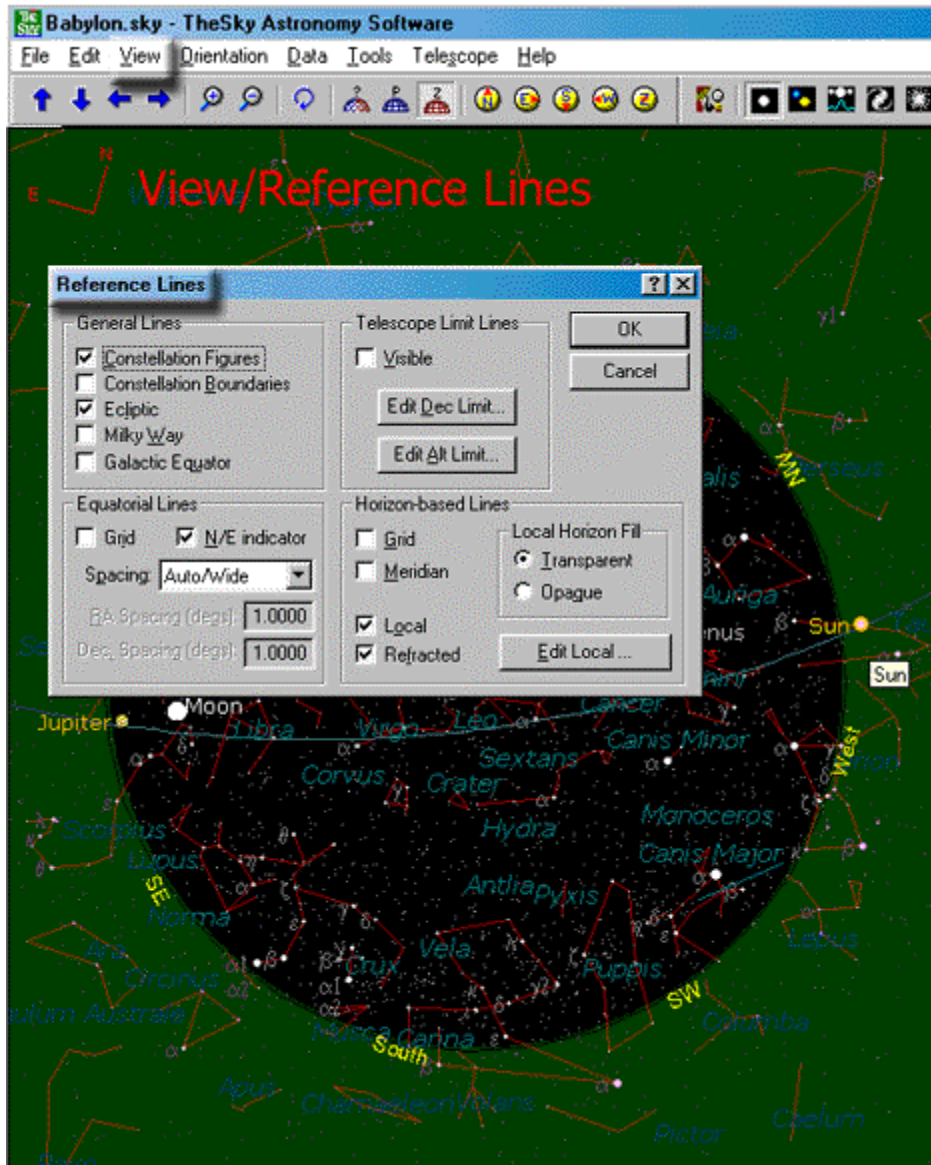
View/Filters: The **Filters** settings determine the celestial objects that appear in TheSky representations. The boxes checked below - Star, Constellation Figures, Ecliptic, Horizon Lines and the sun, moon and planets - are adequate for displaying Babylonian astronomy.

   Magnitude Limits - from Brightest at -6.0 to Faintest at +6.0 - display the important celestial bodies without cluttering up the presentation.
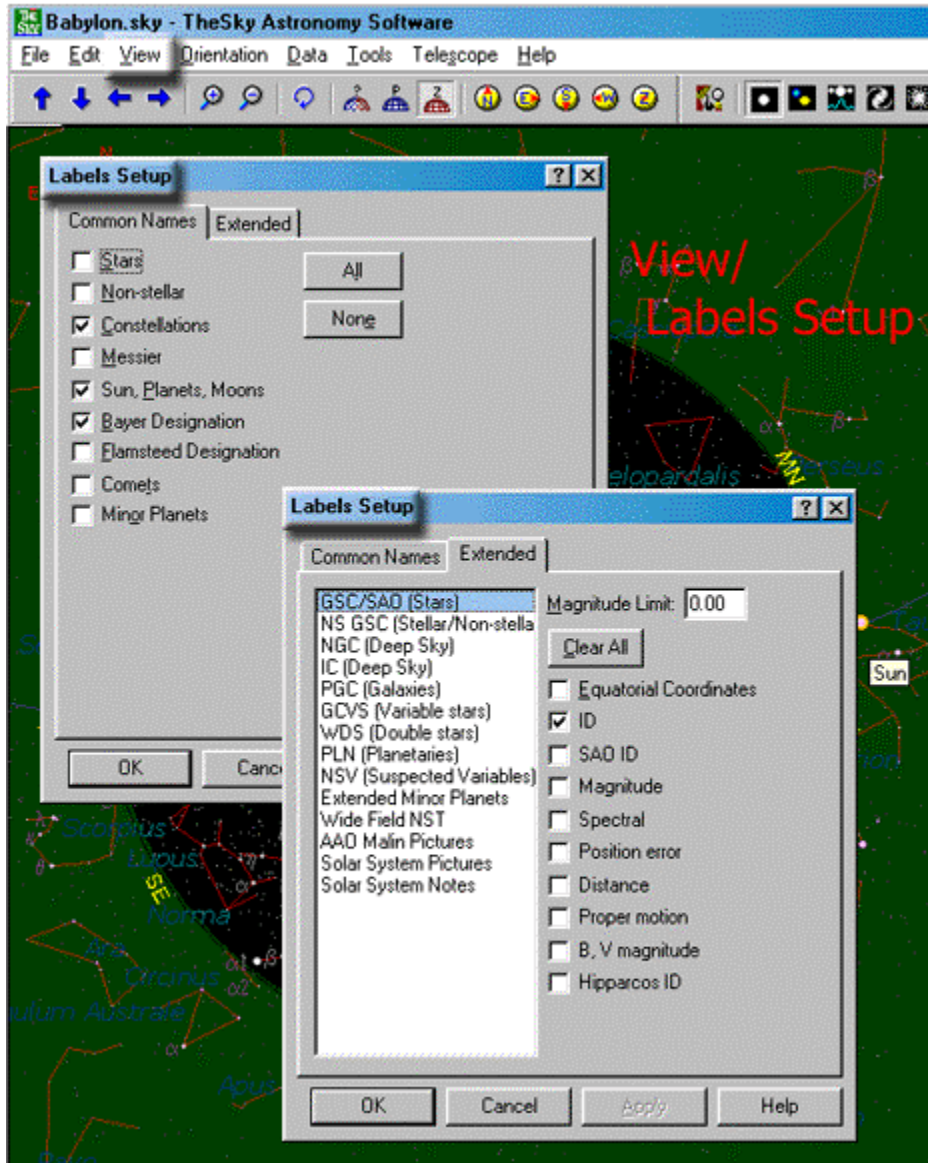
View/Reference Lines: The **Reference Lines** used in *Feat of Clay* are the
Constellation Figures and the Ecliptic. The **N/E indicator** (North/East) aids in
measuring *above* and *below* direction encountered in the Diaries. Though Babylonian
astronomers may not refer to cardinal directions in their observations, the N/E
indicator leads to satisfactory results in most cases.
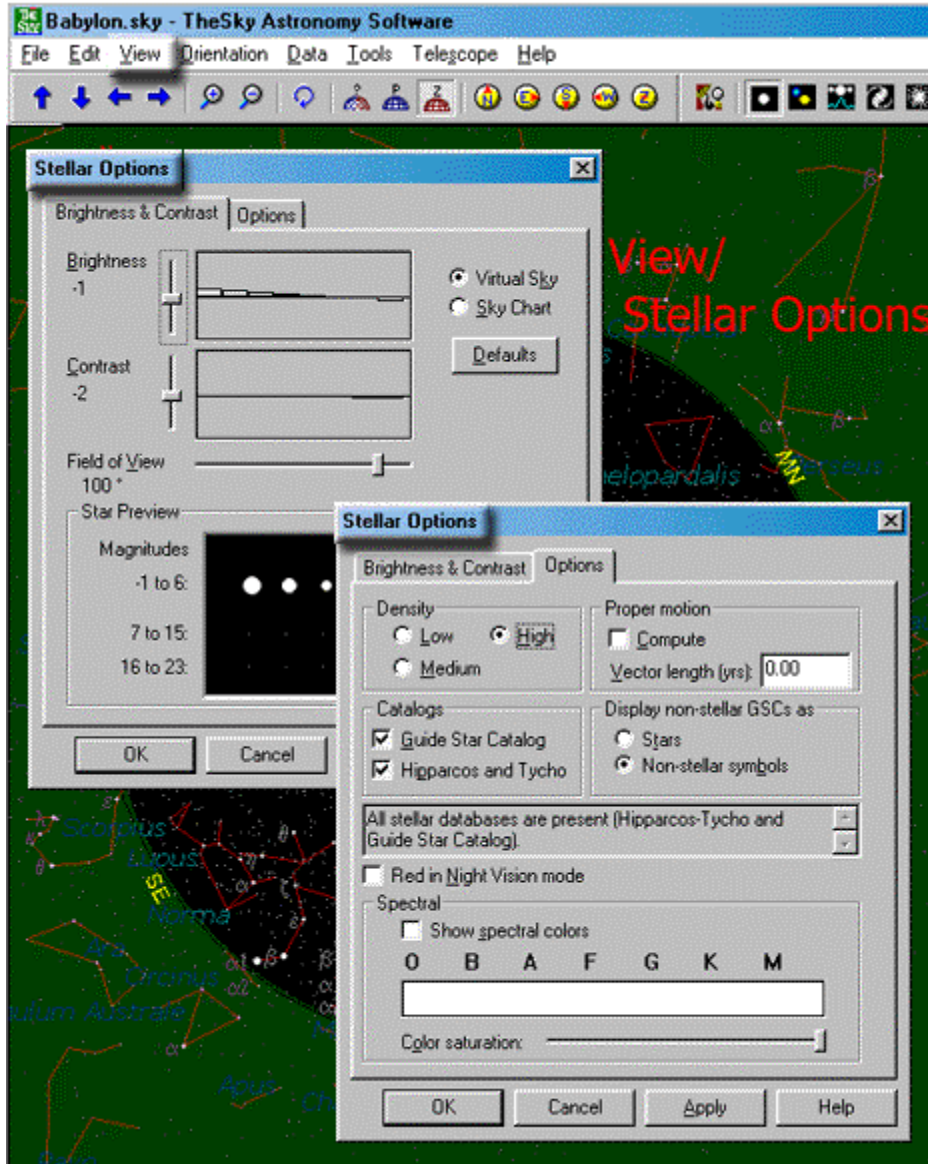
The selections in the section **Horizon-based Lines** below enables a user of
TheSky software to "observe" sunrise and sunset as the Babylonians did, i.e., as a naked
eye sky-watcher would see celestial bodies on the horizon.

View/Labels: **Labels** determine the text that shows up in a Skyshot, i.e., the celestial elements that are named in a sky representation. The boxes checked in the screen below are the only labels required for dealing with the Sachs & Hunger version of the Diaries.
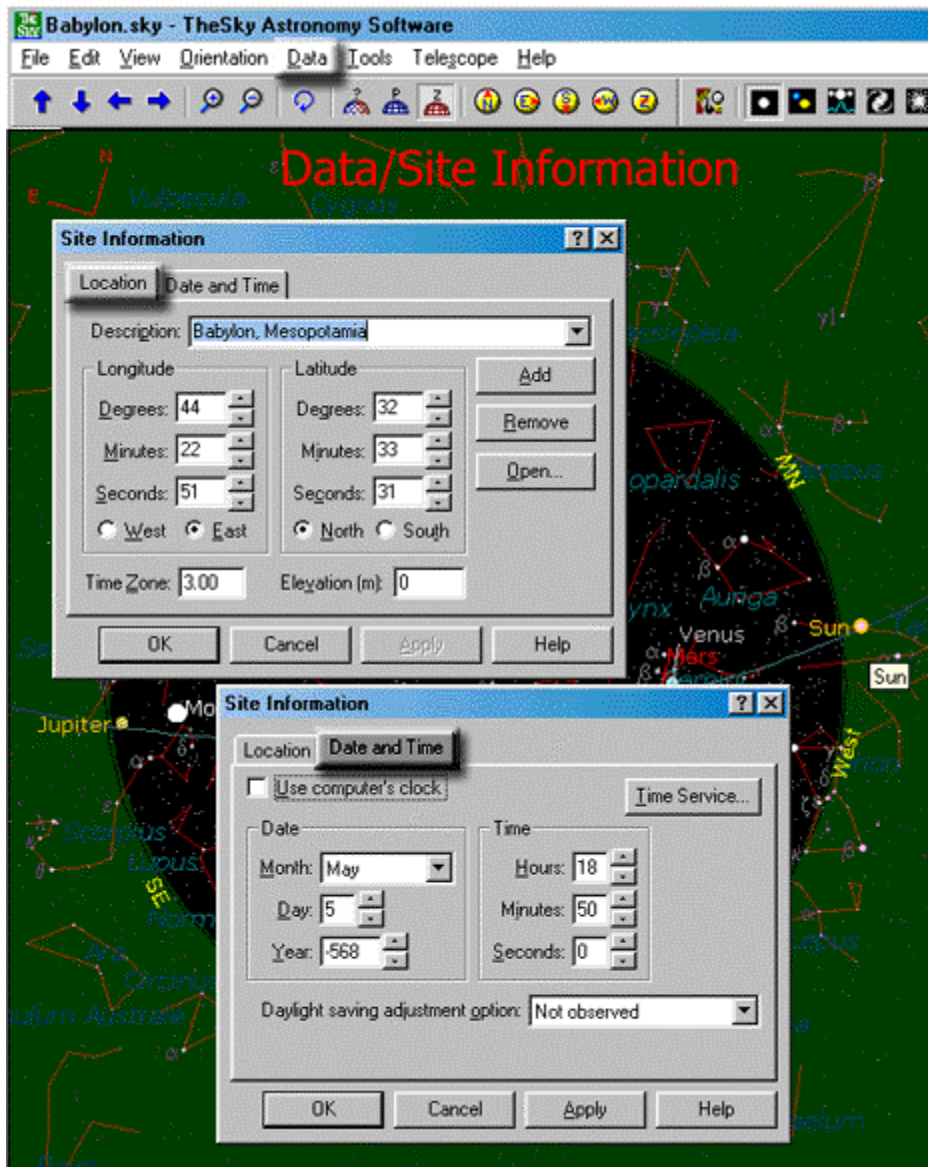
View/Stellar Options: The settings for **Stellar Options** are not crucial. The settings chosen help make the Skyshots appealing, or at least less cluttered.
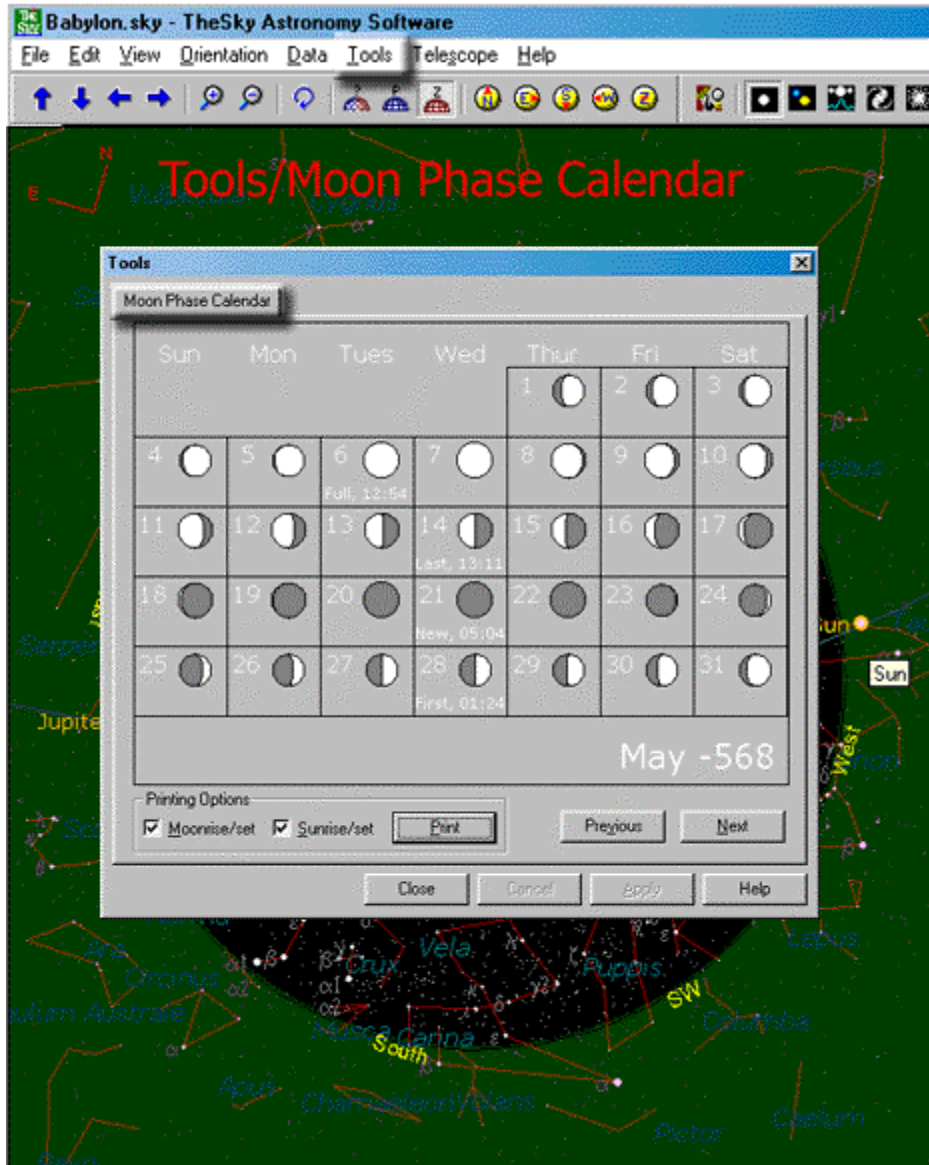
Data_SiteInfo/Site Information: TheSky does not furnish the **Location** of Babylon (though nearby Baghdad is in the software's database.) The coordinates have to be typed in the appropriate spaces (or scrolled with the "arrow" buttons.)

An approximate date and time should be entered in the **Date and Time** panel. These can be adjusted later on from within a Skyshot. Note the **Year** -568 entered below. It represents the year 568 BC historical, which is equivalent to –567 in the astronomical way of counting years.

For historical studies, the **Use computer's clock** box must be left unchecked.

Data_SiteInfo/Options: These options are of minor importance in studying the Sachs & Hunger Diaries. However, the selections below are best for reasons that are not worthwhile explaining.
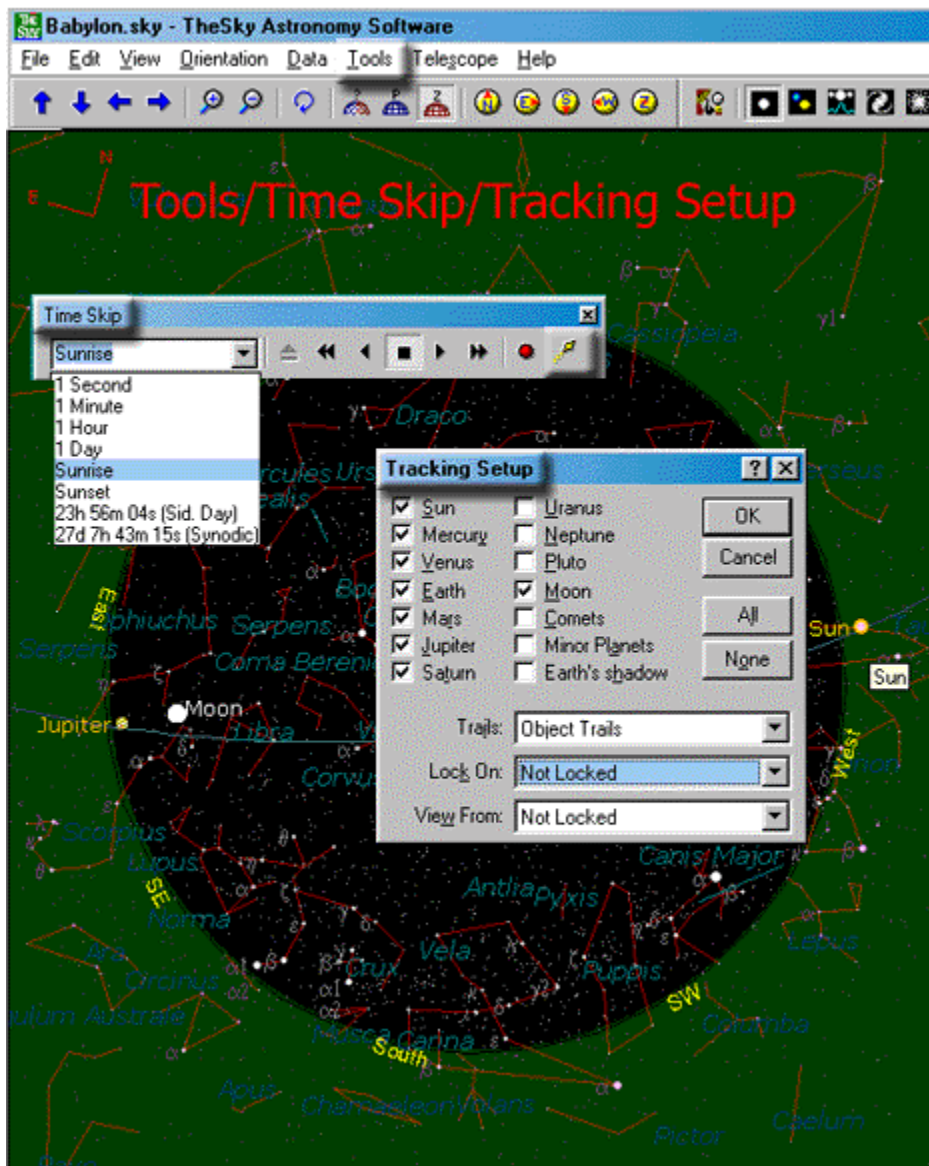
Tools/Moon Phase Calendar: The Calendar is not especially useful for studying the Diaries. It may be of some assistance in keeping track of New Moon and other phases occasionally mentioned in the Diaries.

Tools/Time Skip: Once the approximate date and time is set in the Data/Site Information panel, the **Time Skip** tool can be used to arrive at the exact time and date the user requires. With the Time Skip set to *1 minute*, changes in the celestial configuration can be observed minute-by-minute. This is especially convenient in tracking the moon and planets around sunrise and sunset. A Time-Skip of *sunset* shows the variations from day to day at sunset, a useful technique for determining the date of phenomena such as the first and the last appearance of a planet.

Clicking on the button at the end of the panel (the gold logo,) brings up the **Tracking Setup**. The tool is useful for keeping a Skyshot centered on a selected body while stepping time with the Time Skip tool. This procedure leaves the body immobile, but causes the celestial background to move. With "View from" set to earth and "Lock on" to a planet, it is easy to determine when a planet reaches a stationary point, i.e., when the starry background is immobile relative to the "locked" planet.

Conclusion: Once TheSky is set up for studying the Diaries, putting the software to use requires some familiarity with naked eye astronomy and Babylonian terminology. For the beginner, learning to replicate the Skyshots in the Reports would be a useful exercise. They deal with nearly every sort of celestial phenomenon recorded in the Diaries.

   The Reports can be found in three "Evidence" frames: **Frame 24**, *Box Score, Diary No. –567;* **Frame 30,** *A Look Into Diary No. –197 (198 BCE);* and **Frame 31,** *Random Tests/Characteristic Phenomena*. The Skyshots in these Reports depict approximately one hundred Babylonian observations.

   In addition, **Frame 21** and **Frame 22** explain the operation of Babylonian characteristic phenomena.