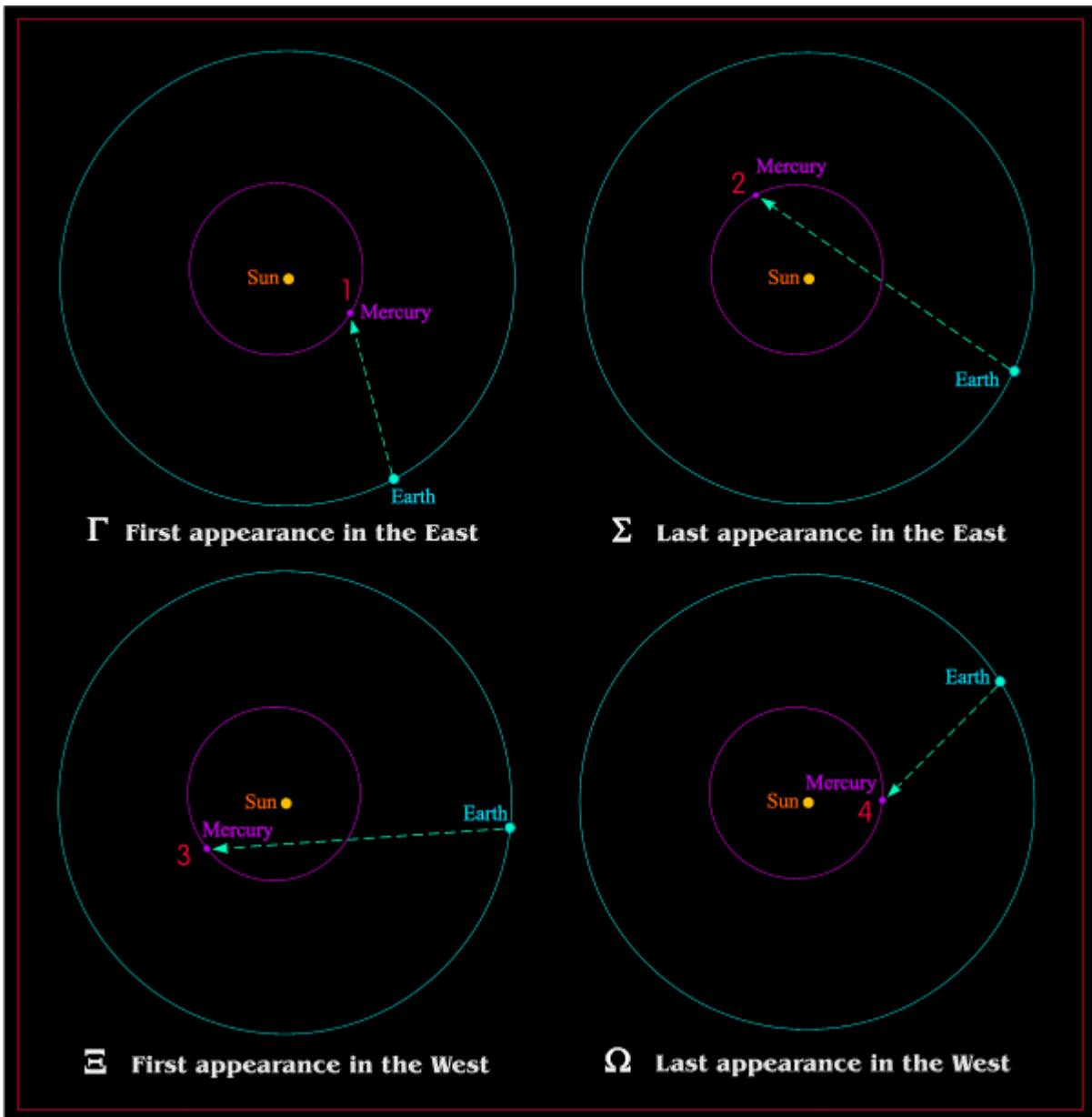


BABYLONIAN CHARACTERISTIC PHENOMENA THE INFERIOR PLANET MERCURY



First and Last Appearances of Mercury
Plan view from above (north) solar system
Mercury and earth move counter-clockwise in orbit around sun

GENERAL REMARKS

The following notes deal with the characteristic phenomena of the inferior planets Venus and Mercury. Not included in the figure above are the "stationary points" for inferior planets, since these phenomena are not recorded in the Diaries. The discussion which focuses on Mercury also applies to Venus.

BASICS: The earth moves approximately one third of its orbit around the sun in a synodic "year" of Mercury. During this interval, Mercury twice becomes obscured from earth-based observers: (1) when the planet passes *between* Earth and the Sun and, (2) when it passes *behind* the Sun. As Mercury enters each of these phases, it "sets" on the day of its "Last Appearance" in either the "East" or the "West", and similarly "rises" on the day of its "First appearance" in the "East" or the "West."

1. First appearance in the East

Position 1. The "First appearance in the East" takes place after Mercury disappeared in the West, moved between Earth and the Sun (invisible during this interval), and then re-appears prior to sunrise in the "East." Thus, it rises as a "star" observed in the morning, towards the east during "the last part of the night."

No. -197

SE 114 VII 0 = VI 30 -197, Oct 6/7 (New Moon)

B Obv.'

Line B6 .. The 19th, Mercury's first appearance in the east in Libra, 3 ½ cubits behind Saturn to the east; it was bright, rising of Mercury to sunrise: 16°; (ideal) first appearance on the 17th...

(For analysis and Skyshot of the observation, see frame 31:
Characteristic phenomena, an analysis of 8 inscriptions - Report 41.)

2. Last appearance in the East

Position 2. After the First Appearance in the east, Mercury pulls ahead of the earth and swings wide of the sun to reach a maximum elongation. Subsequently,

the elongation from the sun diminishes until the Mercury disappears from view. The Last Appearance in the East is a morning observation around sunrise, the "last part of the night."

No. -197

SE 114 VIII 0 = VII 29 -197, Nov 4/5

B19 = C2' .. The 27th, Mercury's [last appearance] in the east

(For analysis and Skyshot of the observation, see frame 31:
Characteristic phenomena, an analysis of 8 inscriptions - Report 42.)

3. First appearance in the West

Position 3. After Mercury has disappeared in the "East," it will continue around the Sun on the far side from Earth and thus not be visible. Moving swifter than the earth, Mercury eventually is visible in the "West" around sunset, close to the Sun.

No. -321

Philip III year 2 10 -321 Apr 2/3 (New Moon)

A Obv.'

Line 11 The 20th, Mercury's first appearance in the west in "Bull of Heaven" 3½ cubits in front of Venus to the west; sunset to setting of Mercury: 13°;

(For analysis and Skyshot of the observation, see frame 31:
Characteristic phenomena, an analysis of 8 inscriptions - Report 43.)

4. Last appearance in the west

Position 4. After becoming visible in the "West" Mercury "gains" on earth, swinging wider of the sun for a while (elongation increases) before closing on the sun once again. As Mercury moves into the stretch of its orbit between the sun and the earth, the planet "sets" in the "west" and a period of invisibility ensues.

No. -346

Artaxerxes III IX 0 = VIII 30 -346, Dec 1/2 (New Moon)

Line 10 ... The 21st, Mercury's last appearance in the west in Capricorn

(For analysis and Skyshot of the observation, see frame 31:
Characteristic phenomena, an analysis of 8 inscriptions - Report 44.)