



Title: Space, Time, and Space Architecture

Abstract

Space and Time are inextricably connected. Humans' earliest indicator of the passage of time was surely the apparent movement of the sun through the sky from sunrise to sunset. The day/night cycle was just the first metric for the passage of time based on the passage of celestial bodies through space. Following the measure of the day, the next longest metric would be the month, the unit of a lunar calendar, based upon the revolution of the Moon around the Earth. Finally, the measure of a year reflects one revolution of the Earth around the Sun. Each of these measures brings profound implications for all forms of life on Earth, perhaps most particularly human life as our species expands into space.

These fundamental measures of time provide the raw material for many concepts in astronautics, astronomy, mathematics, physics, and space mission design. Rather than trace the chronological or historical development of these disciplines, this essay follows an associative pattern to describe the linkages and leaps among these ideas, associated precepts, and the phenomena they describe.

Keywords: Spacetime, Lunisolar Calendar, Synodic Period, Human Mars Mission, Space Architecture