PASSAGE OF TIME

Artist
PEGGY LETTERLY GUNNERSON

commissioned by
The Pocatello Arts Council
for
The Historic Old Town District of Pocatello

PASSAGE OF TIME

PASSAGE OF TIME was designed and created to commemorate Pocatello as "Gate City", historically, the "*gateway to the Snake River Plain*".

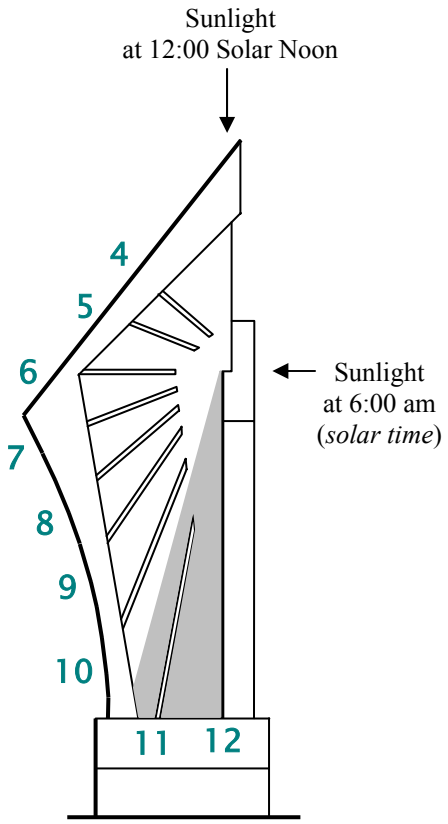
The sculptures stand as portals at this gateway…to mark both entrance and history…to uplift the spirit within this passage… to re-acquaint ourselves with the natural rhythms of our immediate environment and elemental relationships.

Echoing the opening through the mountains leading to the Pocatello area, as well as incorporating architectural nuances that announce arrival to a city environment, both old and new, the sculptures were designed by the artist to stimulate one's intuition of space and the physical nature of *time*.

PASSAGE OF TIME is based upon ancient, historical means of telling and marking time. *Gnomonics* is the science of casting shadows from the sun to indicate hours of the day. It involves sun/earth relationships and geometries unique to one's location and, therefore, is very site specific. These two sculptures were made specifically for Pocatello and its position on the earth, that is: 42°55'N latitude and 112°32'W longitude. The latitude angle, in particular, serves as both a basis and as elements within the sculptures, so that the sculptures work as *vertical direct south solar dials.*

- The upright stones are the *gnomons*, which cast shadows onto the dial face as the sun moves.
- The gnomon's top slanted edge points to Polaris, the North Star. Its angle is equal to the latitude of Pocatello.
- The metal dial faces are divided into hours by *hour lines*, the angles determinant, also, from Pocatello's latitude.

SCULPTURES OF THE SUN

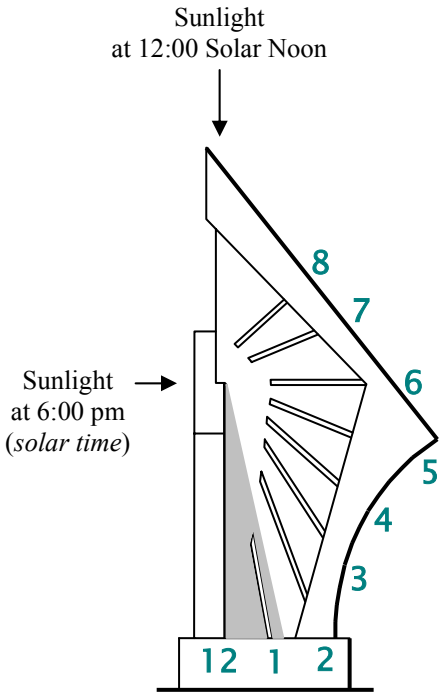


MORNING

The upright gnomon stone will cast a shadow from the morning sun onto the metal dial face, indicating the *solar time*. (The above illustration shows the time associated with each hour line.)

The 6:00 AM shadow falls horizontally. As the sun rises, the shadow descends, until Noon, when the sun is on the meridian overhead, and the shadow is vertical.

The shadow illustrated is indicating a *local time* or *solar time* of 10:30 AM.



AFTERNOON

Afternoon time will be indicated on this sculpture, as the gnomon's shadow falls upon the dial face.

The Noon shadow is vertical. As the sun descends, the shadow ascends. The shadow is horizontal at 6:00 PM.

The shadow illustrated is indicating a *local time* or *solar time* of 1:15 PM.

SOLAR TIME = LOCAL TIME

A sundial reads accurate *local time*…or *apparent solar time*… in which 12:00 NOON is based on when the sun is directly above the local meridian or longitudinal line.

CLOCK TIME = STANDARD TIME

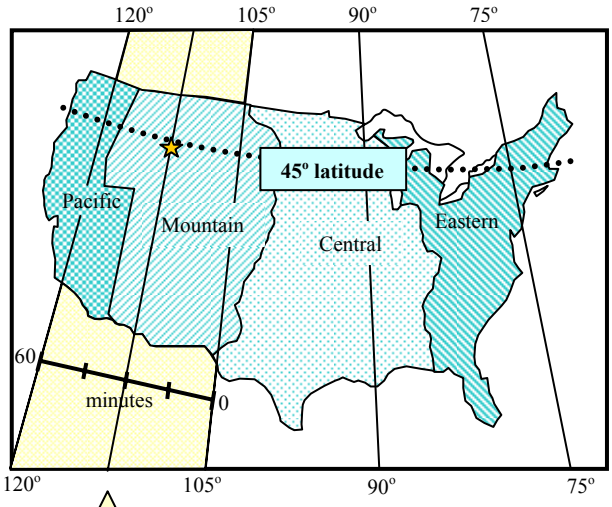
A clock or watch is based on *Standard Time,* with twenty-four standard time zones around the surface of the earth. The time zones have been established at 15° longitudinal intervals, (with some geo-political variances), and each is the apparent distance that the sun travels across the sky in 60 minutes.

Pocatello (☆) is in the Mountain Standard Time Zone (MST).

SOLAR TIME vs. CLOCK TIME

It is12:00 NOON Mountain Standard Time when the sun is overhead (on the meridian) at 105° longitude…

…and 12:00 throughout the time zone.



It is 12:00 NOON Local Time (Solar Time) for Pocatello (☆) when the sun passes over Pocatello's meridian of 112°32' W longitude.

CONVERTING SOLAR TIME TO CLOCK TIME

1 Add 30 minutes to the time indicated on the sundials …to compensate for Pocatello's position (☆) midway within the standard time zone.

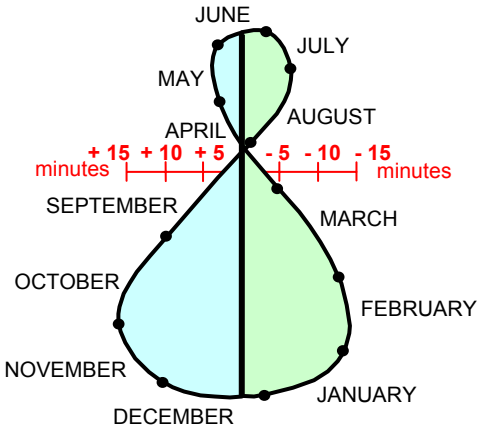
12:00 NOON Mountain Standard Time is when the sun passes over the 105° meridian. The sun must travel an additional 7° 32' before it passes over Pocatello's meridian (☆), which takes 30 minutes, 8 seconds of time. (1° = 4 minutes)

2 Add 1 hour… for Daylight Savings Time, if appropriate.

3 Add or subtract minutes… for the "Equation of Time".

The "Equation of Time" compensates for subtle differences in the length of a day, primarily due to earth's elliptical orbit around the sun.

The differences are shown graphically on the "*Analemma*" below.



(+) means the sun is fast

Minutes are subtracted from the time on the dial during the months/days shown in blue.

(-) means the sun is slow

Minutes are added to the time on the dial during the months/days shown in green.

PEGGY LETTERLY GUNNERSON
Ririe, Idaho
208.538.7486
letterly3d@aol.com