

Medicine Wheels and Archaeoastronomy: Star Charts of the Plains  
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Archaeoastronomy is the study of how people in the past have understood the phenomena in the sky, how they used these phenomena and what role the sky played in their culture.

Most of us are familiar with solstice and equinox events. Solstice is Latin for Sol (sun) and stice (stopped or sits). At Summer solstice, the sun is closest to earth and creates the longest day. At Winter solstice, the sun is the farthest way and creates the shortest day. Equinox is Latin for equal. At both the Spring and Fall equinox, there are 12 equal hours of day and night.

The sky, however, provides more calendar devices. The Moon teaches about 28 days and months. The Sun teaches the seasons (solstice and equinox). The planets teach the years and decades. Finally the stars teach thousands of years by their precessional cycle of 24,000 to 25,800 years.

Agricultural cultures primarily focused on the Sun and Moon using stone alignments and petroglyph markers. Since hunter and gatherer cultures like the Plains Tribes were always on the move, they looked to the stars as their guideposts.

For example the Pawnee, a northern Plains tribe, occupied southeastern Nebraska. They stayed in their Earth lodges and planted their crops. In June, they went on the buffalo hunts in their tipis. When they returned in September the crops were ready for harvest.

Their Morning Star was Mars and their Evening Star was Venus. Every 780 days, Morning Star (Mars) was in the correct position with Evening Star (Venus) for the human sacrifice ritual called the Morning Star ceremony. Instead of the four cardinal directions of East, South, West, and North, they used the criss-cross to mark the following: Northwest for the Yellow Star; Southwest for the Red Star; Northeast for the Black Star; Southwest for the White Star.

In 1927, the Pawnee Star Chart was found and donated to the Field Museum of Chicago. This buckskin star chart showed the Milky Way and all the stars in the Pawnee stories.

Another example is the Lakota tipi. The Lakota mirror what is in the sky is on the earth. When a ceremony was performed in the sky, it was performed on Earth. The sky not only told them when to do a ceremony, but where to do the ceremony.

The top triangle of the Lakota tipi was the stars, and the bottom triangle was earth. The 12 poles of the Sun Dance tipi were: First three poles are the Orion belt, 7 poles are the Big Dipper and last 2 poles are the Morning and Evening Star.

In addition to sky lore, the plains tribes created the great calendar wheels known as the medicine wheels. Many Native American tribes including the Sheep Easter, Crow, Cheyenne, Gros Ventres, Shoshone, Blackfeet in the USA and Blackfoot in Canada used the wheels in the past and still use the wheels today. Although many ignore the Native science of indigenous people both past and present, a 5,000-year-old Calendar Wheel in Canada is and was more accurate than the 500 year old Gregorian calendar we use today.

Four noteworthy medicine wheels or calendar wheels are: the Majorville Medicine Wheel in Alberta Canada; Moose Mountain Medicine Wheel in Canada; Fort Smith Medicine Wheel in Fort Smith, Montana and Big Horn Medicine Wheel in Bighorn, Wyoming.

The Majorville Wheel is estimated to be at least 5,000 years old or older – about the same age as Stonehenge. Both Stonehenge and Majorville are at the latitude of 51 North.

Moose Mountain Wheel is estimated to be 2,650 to 3,000 years old, dated by using star alignments. It may have been the model for the Bighorn Wheel.

The Fort Smith Wheel is dated at about 1840 to 1850. The Crow have the story of Burnt Face who had a vision at Big Horn Wheel. If he built a wheel, the scars on his face would be healed. The scars went away after he built the Fort Smith Wheel.

The astronomer John Eddy visited the Big Horn Wheel in the 1970s. He was the first to observe that the 28 spokes lined up with the stars. The spokes are unevenly placed in order to divide the sky into star sectors. The Center Cairn is 10 feet in diameter and used to have a roof. The age is set at about 1200 AD – some think the date is much older. This wheel happens to be on the 108 longitude, the same longitude known as the Chaco Meridian linking the major ruins north and south of Chaco Canyon.

Resources include the computer program Starry Night that can move the location of stars back as far as 99,000 years to see when they stars align with rocks, spokes or cairns; and the book [Exploratory Research of the Big Horn Medicine Wheel](#) by Ivy Merriot (CreateSpace Independent Publishing Platform, Aug. 18 2014) which contains many technological details. Merriot's next book will include an article, "Star Circle, the Good, the Bad and the Astronomy" by Kaye Whitefeather Robinson. For more information and details, see the DAS March 2017 Newsletter and this DAS Technical Report: <http://dixierockart.webs.com/Technical%20Presentations/The%20Big%20Horn%20Medicine%20Wheel.pdf>