

CELEBRATING THE SUN

Some Remarks on Birkat HaChamah from the Viewpoint of an Astronomer

by Howard L. Cohen *

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Rabbi Moline has asked that I make some brief remarks about this morning's unusual and rare observance, an event most have never heard about. An event, in fact, Rabbi Moline wrote in a recent e-mail is a "quaint if scientifically dubious custom!"

Since I have been associated with astronomy most of my life, I assume Rabbi Moline wants me to speak based on my perspective as an astronomer. This is problematic. Certainly some Jewish observances are tied to astronomical events. For example, Hebrew months always begin close to times of new moons and Pesach always falls near a full moon. However, today's celebration of the Sun has no real basis in astronomy. Still observing an event as this that happens only once every twenty-eight years is worth reflecting on.

Nature, including my own discipline of astronomy, is filled with cyclic events. Some recur over short times as the rising and setting of the Sun or the monthly cycle of the Moon's phases. Longer events require still more patience. As an illustration, this year the Sun should embark on a new sunspot cycle. This is a cause for celebration by avid Sun watchers since the solar disk has been nearly spotless for the last year and remains in the midst of one the deepest solar minima in nearly a hundred years. Since, a complete sunspot cycle typically lasts about 22 years, only several complete solar cycles fit into a human lifetime.

However, events that happen but once, or only a few times in one's life, are prized like no other. For example, if you missed the last close approach of Comet Halley, the next is still more than a half century away. The last time the planet Venus crossed in front of the Sun's disk was in 2004, an event no one alive had ever seen since the previous was in 1882, more than a lifetime ago. Meanwhile, Pluto reached its closest point to the Sun in 1989 and became visible in small telescopes for the first time, a sight not to repeat for almost 250 years.

Astronomical events as these remind us not only of nature's grandeur but also how short our lives compared with the existence of the cosmos. For those, who believe that we only "go around once," these events should not be missed.

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Thinking about these wonders reminds us of the twenty-eight year cycle of the Sun that we are here to celebrate this morning. For those still unclear about its origin, note that early Babylonian and Judaic traditions held that the Sun was created at the vernal equinox in the first hour of the night before the fourth day of creation. Jewish law regards the Sun as having returned to its original position whenever the equinox occurs at the same moment in the week.

However, our count of days, based on the Julian Calendar where leap years occur every four years, causes the days of the week to repeat every 10,227 days, a period of twenty-eight years.

Therefore, Judaic tradition states the Sun returns to its supposed point of birth on the equinox every 28 years marking an auspicious time to bless the Sun. Ultimately, Jewish law codified this event into this little-known but joyful prayer service, the *Birkat HaChamah* (or “Blessing of the Sun”), marking this 28-year cycle.

Now most people, of course, know the vernal equinox currently falls about March 20 on our civil or Gregorian Calendar. Nevertheless, Jewish Talmudic law originally set the date of *Birkat HaChamah* as March 25 on the Julian Calendar. What has happened is that inaccuracies of this calendar have now moved the date of this celebration into April on our civilian calendar although it always continues as March 25 on the old Julian system.

So, *Birkat HaChamah*, which is conducted at the first appearance of the Sun on the first Wednesday of the Jewish month of *Nisan*, now occurs on April 8 every twenty-eight years. Still, this date will continue to move about a day later, about every few hundred years or so. Thus, in the next century, you should mark your calendars for April 9 not April 8 in the year 2121!

And how old is the Sun? Note, that this year, which marks the year 5769 in the Jewish Calendar, now signifies the 206th occurrence of the 28-year cycle marking the birthday of the Sun.

Finally, of course, this year *Birkat HaChamah* has special significance. For, on the very evening of this same day begins one of the most important and oldest religious holidays and festivals. This is the Jewish and Samaritan Passover, a remembrance of the Exodus of the Israelite slaves from Egypt. The simultaneous occurrence of *Birkat HaChamah* and Passover is truly a rare event. The last time both occurred together was eight-four years ago, in 1925. And after today, I believe, we will need to wait another 532 years, for April 12 in the year 2541!

Indeed, *Birkat HaChamah* and its coincidence with Passover has only previously occurred ten times in Biblical history. So, 2009 marks an especially auspicious year for the Sun—the simultaneous celebration of both the birth of the Sun and a spring festival that celebrates the renewal of life.

These are once in life time experiences. Celebrating events as these that only happen once every generation or less forces us to take a deeper view of both ourselves and the light and life of the Sun—where we all came from, what are we now, and where will we be in the future.

Some may argue that certain Jewish traditional procedures for calculating the creation of the Sun use incorrect data or methods. And astronomers, of course, teach the Sun formed along with other stars from the collapse of a giant cloud of gas and dust about four and a half billion years ago. Consequently, many argue that celebrating the Sun's birth today is a meaningless, obsolete and archaic tradition.

Even so, as an astronomer, I believe these thoughts miss the point. Whatever one's beliefs, despite one's walk of life, no matter whether or not one has studied the heavens, this is still a joyous time to gather with family and friends to view the Sun and celebrate, even if only spiritually or symbolically, the birthday of the Sun and its life-giving light that has allowed us to gather here today. □