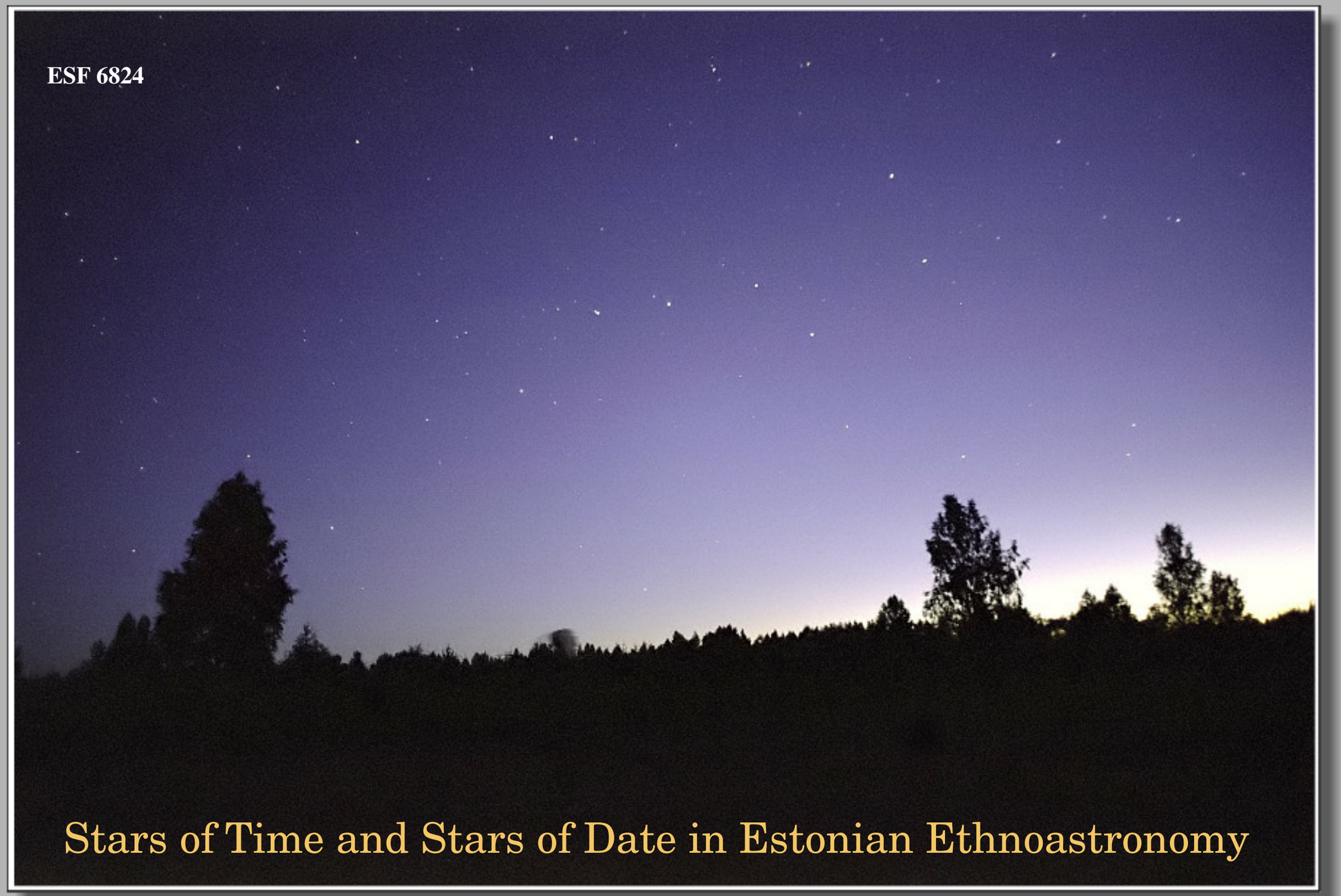



Andres Kuperjanov, DF Estonian Literary Museum

1. The Stars of the time

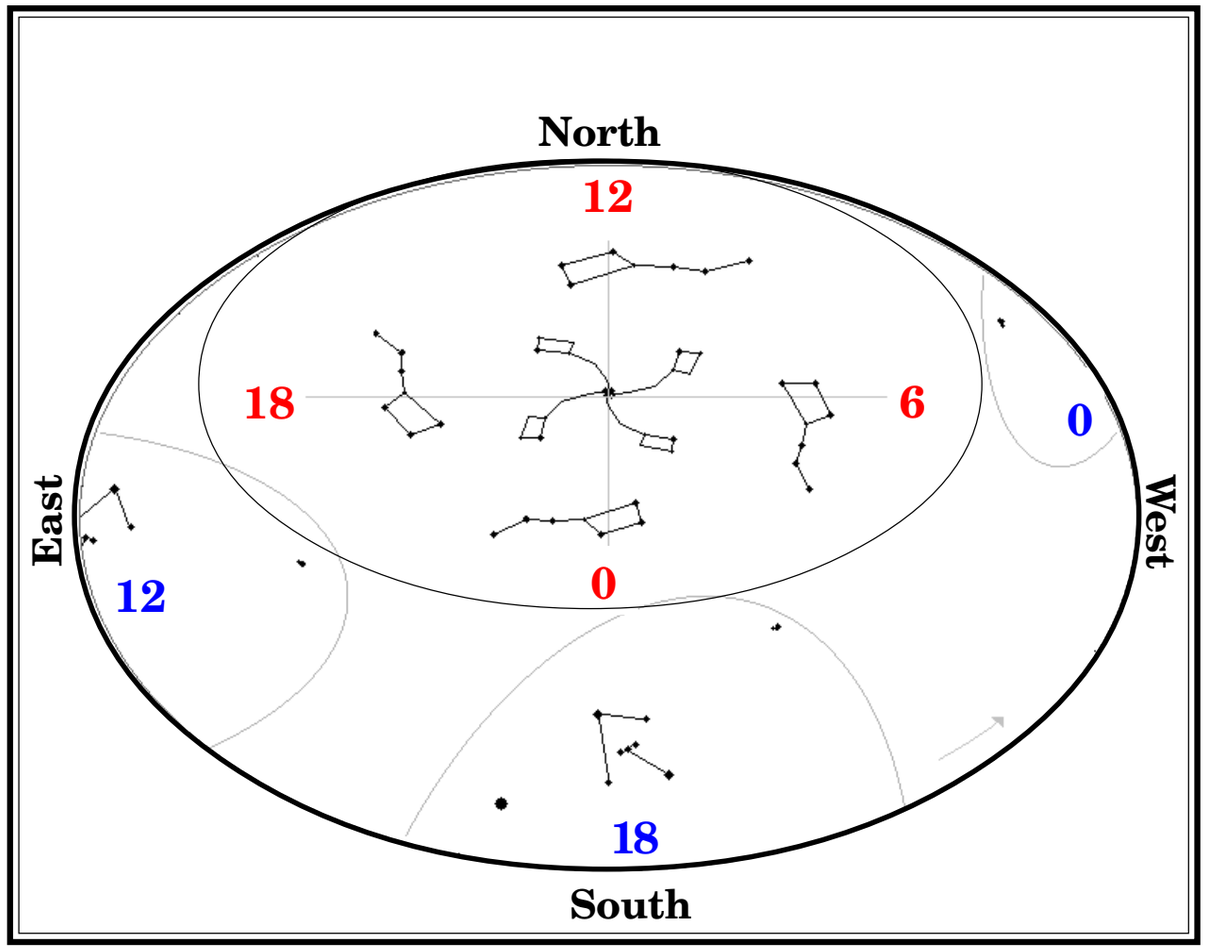
## *The Clock of Sky*

**0** - 22 march 0h
22 june 18h
22 september 12h
22 december 6h

**6** - 22 march 6h
22 june 0h
22 september 18h
22 december 12h

**12** - 22 march 12h
22 june 6h
22 september 0h
22 december 18h

**18** - 22 march 18h
22 june 12h
22 september 6h
22 december 0h




Inner Circle – Great and Little Wain, bigger Circle – Sieve and *Orion*

*Suur Vanker* - The Great Wain (Ursae Major) - was a most important chronometer for the Estonians because by the position of its thill and its wheels in relation to the Pole Star, which was considered to be immovable, people exactly determined the time of the day.

The Flail and the Rake (Orion) with the Sieve (Pleiades) finded also use as Stars of Time, but as they are sessional, they had also meanings connected with calendary events.

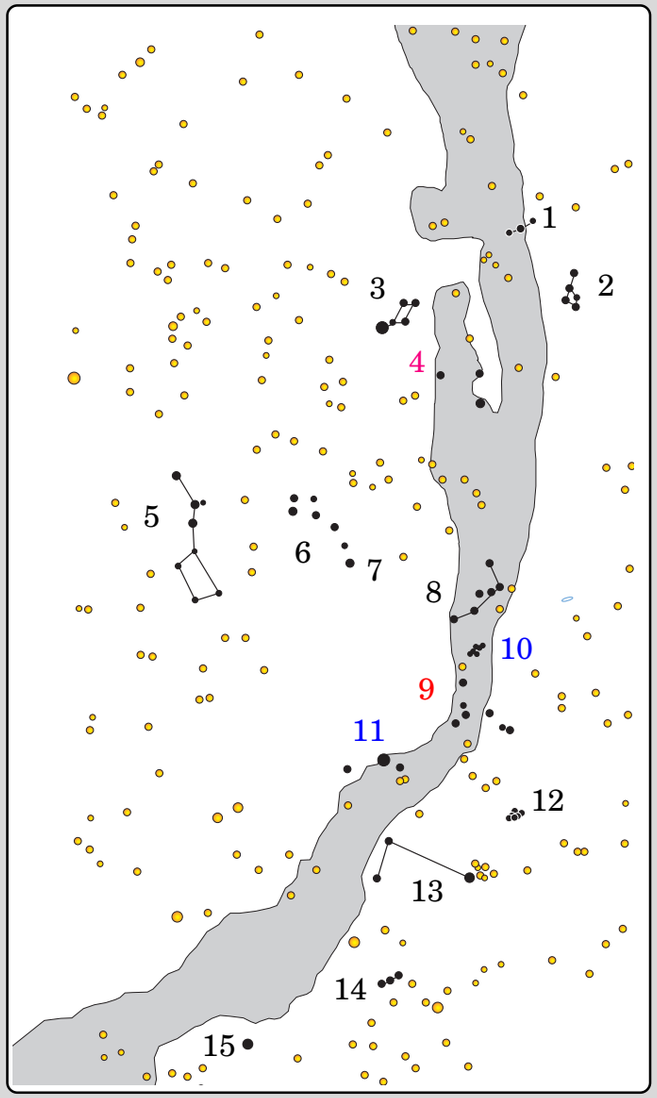
# 2. The Stars of the date

There are some star/constellation names connected with certain feasts in ethno-astronomical collection from Island Saaremaa. Constellations in this layer are small, even the Big Dipper is known as a Man, the Bull and the Wolf, Shaft and the Wheels.
This is most archaic layer of Constellations, and in this context are important names which have direct connections with calendary events. In his “Estonian Astronomy” from 1898. describes Jakob Hurt some star groups
- the Fast Stars (the Grand Gross, *Cygi-nus*), *Albireo* is specified as star of 25th March - *Annunciation of the B.V. Mary*.

- the Candlemess Stars (February 2) stars from the constellation *Perseus*.

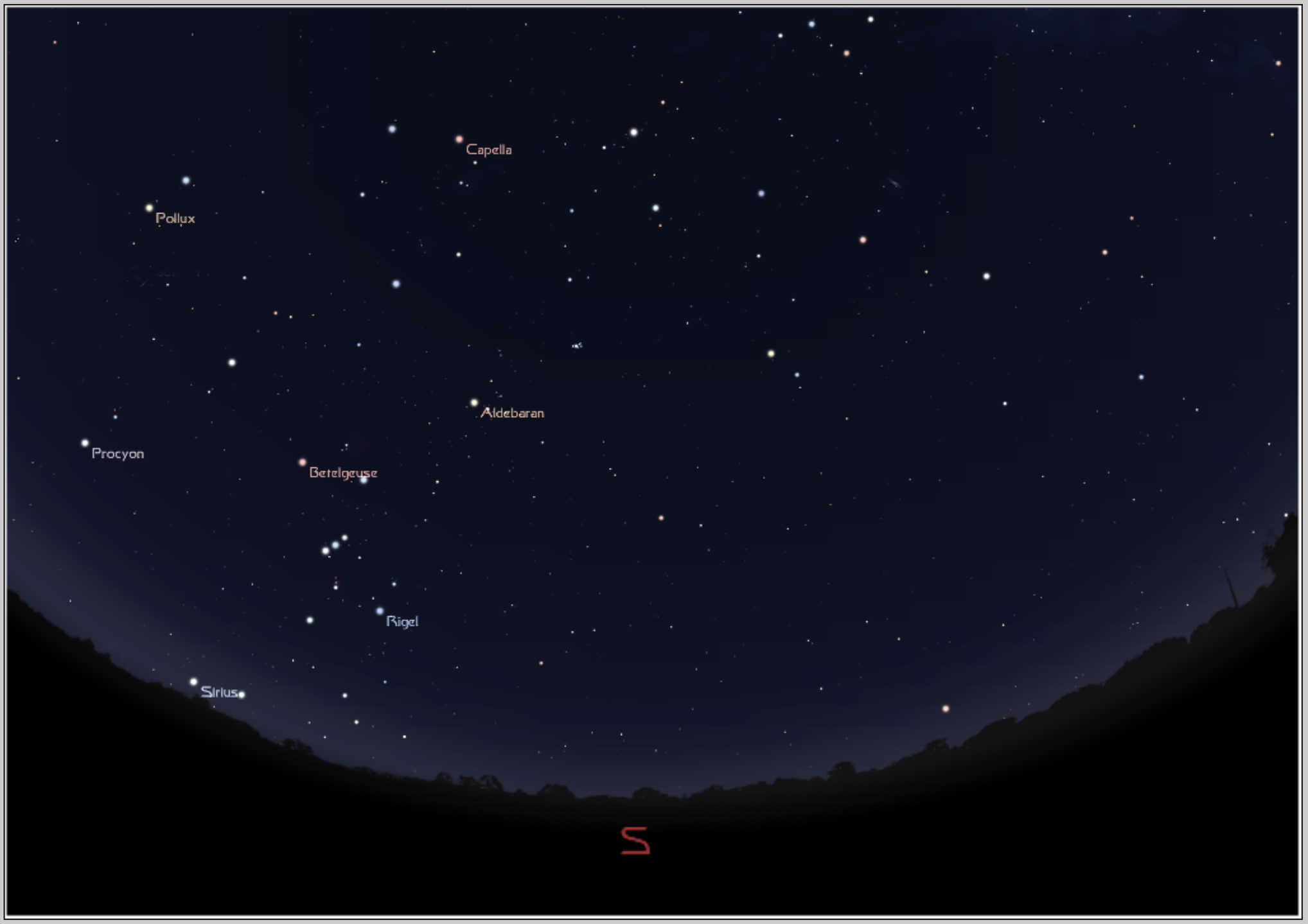
## Constellations from island Saaremaa

1. Old Staff Stars
2. Noah’s Ship
3. Old Cart
4. **Fast Stars**
5. Wheels
6. Old Wheels
7. Northern Nail
8. Shaftbow
9. **Candlemess Stars**
10. **Christmas Sieve**
11. **Christmas Stars**
12. Sieve
13. Crank Stars
14. Spear (Staff) Stars
15. Slave’s Star




- the Christmas Stars - stars from the constellation *Auriga*. *Capella* is known as Christmas Star. Double cluster χ/h *Persei* is known in this layer as Christmas Sieve, but it is also known as St Catherine’s Sieve.

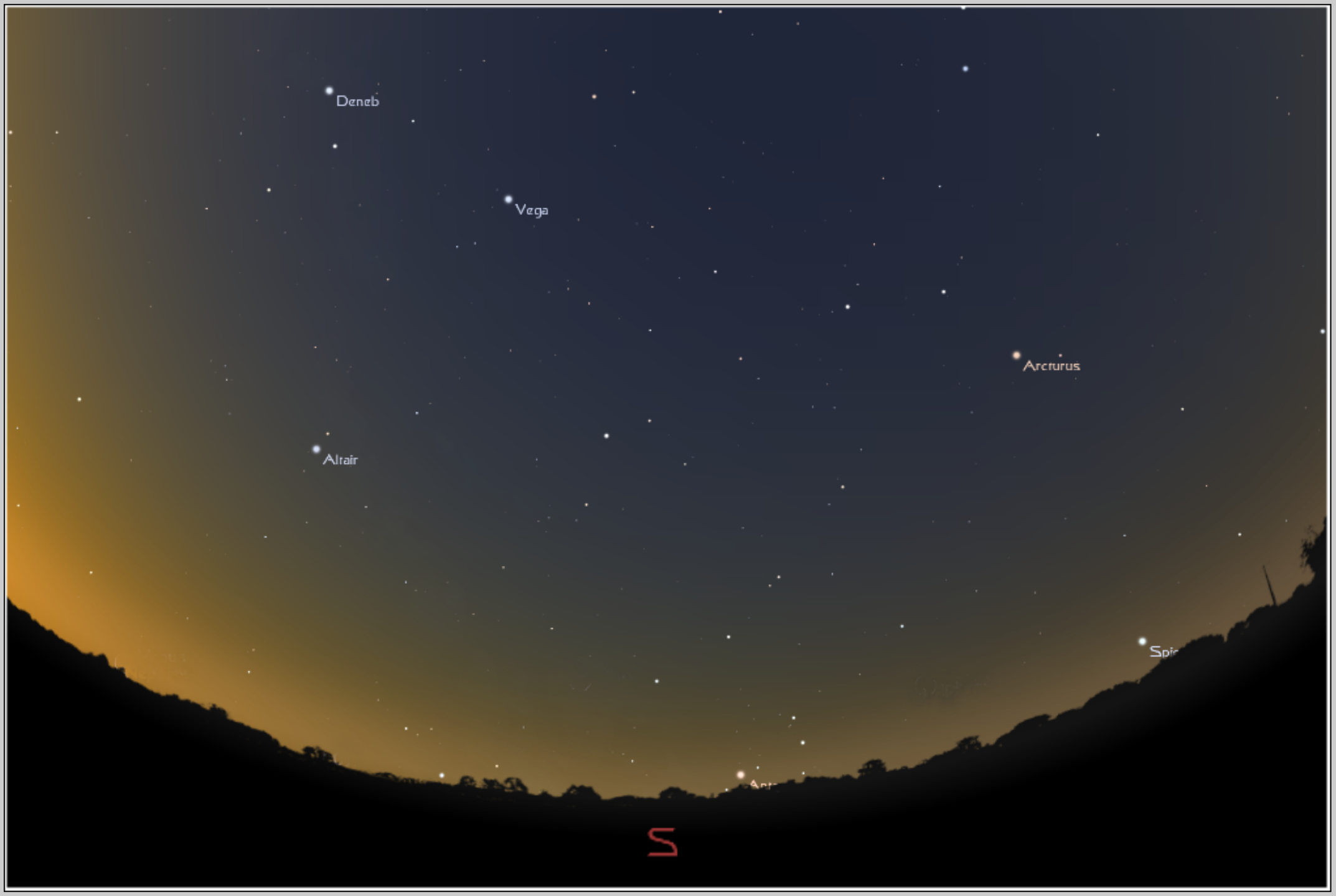
These are catholic names, but these days national traditions includes some rituals that may have deeper connections with precatholic feasts from our area.




The Candlemess Stars (February 2) some stars from the constellation *Perseus*.
*These stars are directly above our heads at 6-7pm Candlemess evening.* (Hurt 1898).


The Christmas Stars have culmination exactly at midnight on Christmas Eve. They are Capella and some stars from the Constellation *Auriga*.


The Fast Stars (the Grand Gross, *Cyginus*), *Albireo* is specified as star of 25th March - *Annunciation of the B.V. Mary*. Low at midnight.




The Fast Stars (the Grand Gross, *Cyginus*), *Albireo* is specified as star of 25th March - *Annunciation of the B.V. Mary*. Not better at the morning.

# Sieve (*Pleiades*)

The Pleiades is group of  stars, commonly related with time. In ancient Greek it was called *Navigation Stars* - because its helical raising indicated beginning of shipping session. In Lithuanian ethnoastronomy are they also named *Time Stars*. In Estonian ethnoastronomy is known only name *Sieve,* the name has only some dialectic variations. It is also used as time mark and prediction utility in estonian folk astronomy like

> *Rich Year is coming if the Moon is behind the Sieve at the last evening of the Old Year (Vigala)*

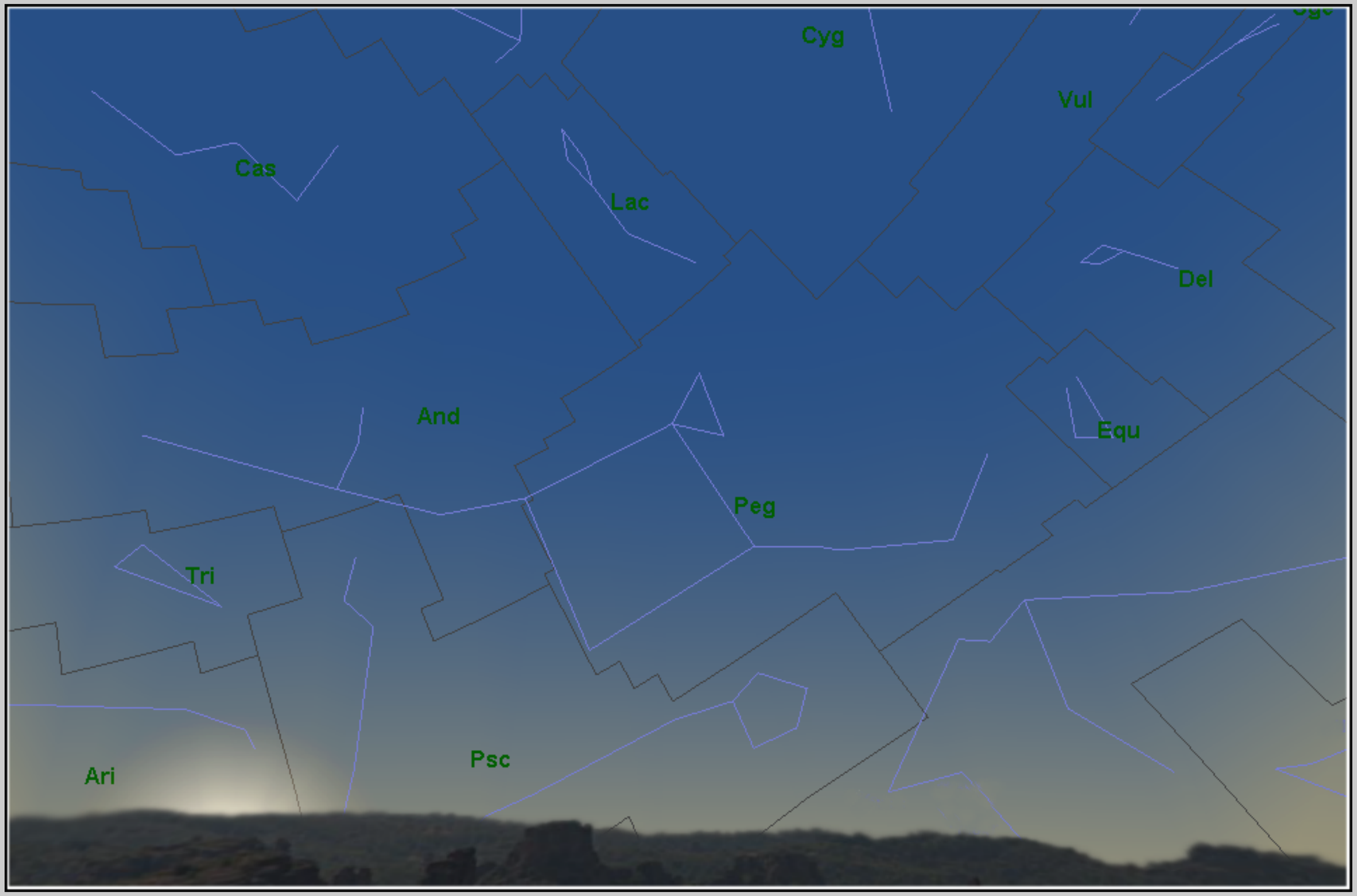
One of the oldest written ethnoastronomic texts is

> *When the Sieve moves into the light of Dawn, the Bull moves into the furrow (Vestring)*

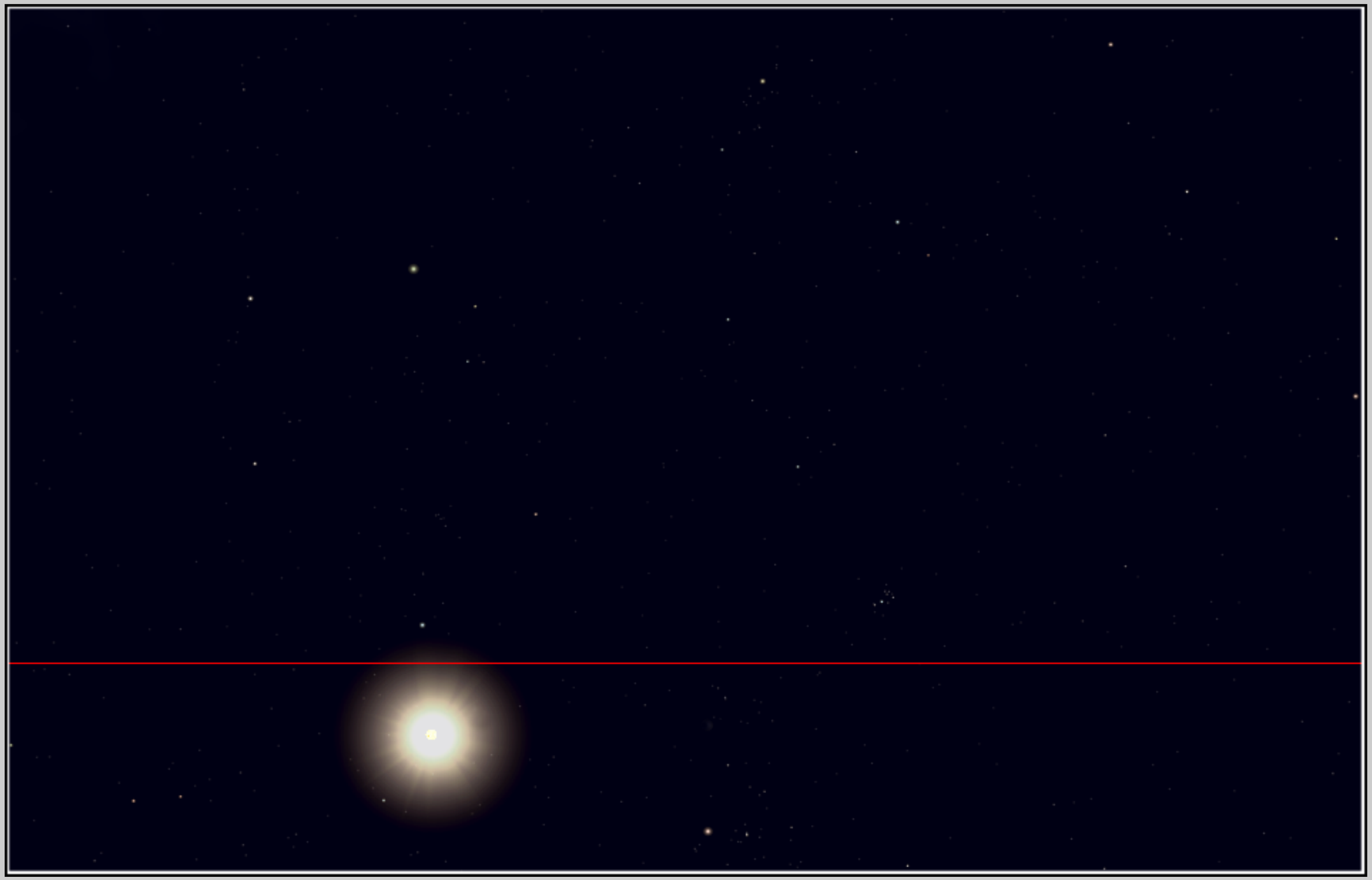

Fig. 18.—Ploughmen.—Fac-simile of a Miniature in a very ancient Anglo-Saxon Manuscript published by Shaw, with legend "God Spede ye Plough, and send us Korne enow."

from the Manuscript of the *Estonian-German Dictionary* by Salomo Heinrich Vestring (about 1720-1730). This saying is widely spread over Estonia and it means in astronomical language that if the Pleiades have a helical rising, it is time to start ploughing fields up.

Helical rising - if the raising star is first time visible before rising of the Sun, it has helical rising.




There is no sign of Pleiades nowadays in the morning sky at the best ploughing time.



Pleiades are in the morning sky, the time is 4000 years ago.

Pleiades are in the morning sky, the time is 4000 years ago, probably it looked like this view. Three weeks from equinox. Time to go ploughing.

But if the view to the previous morning sky looks like this, we must go back more some hundred years

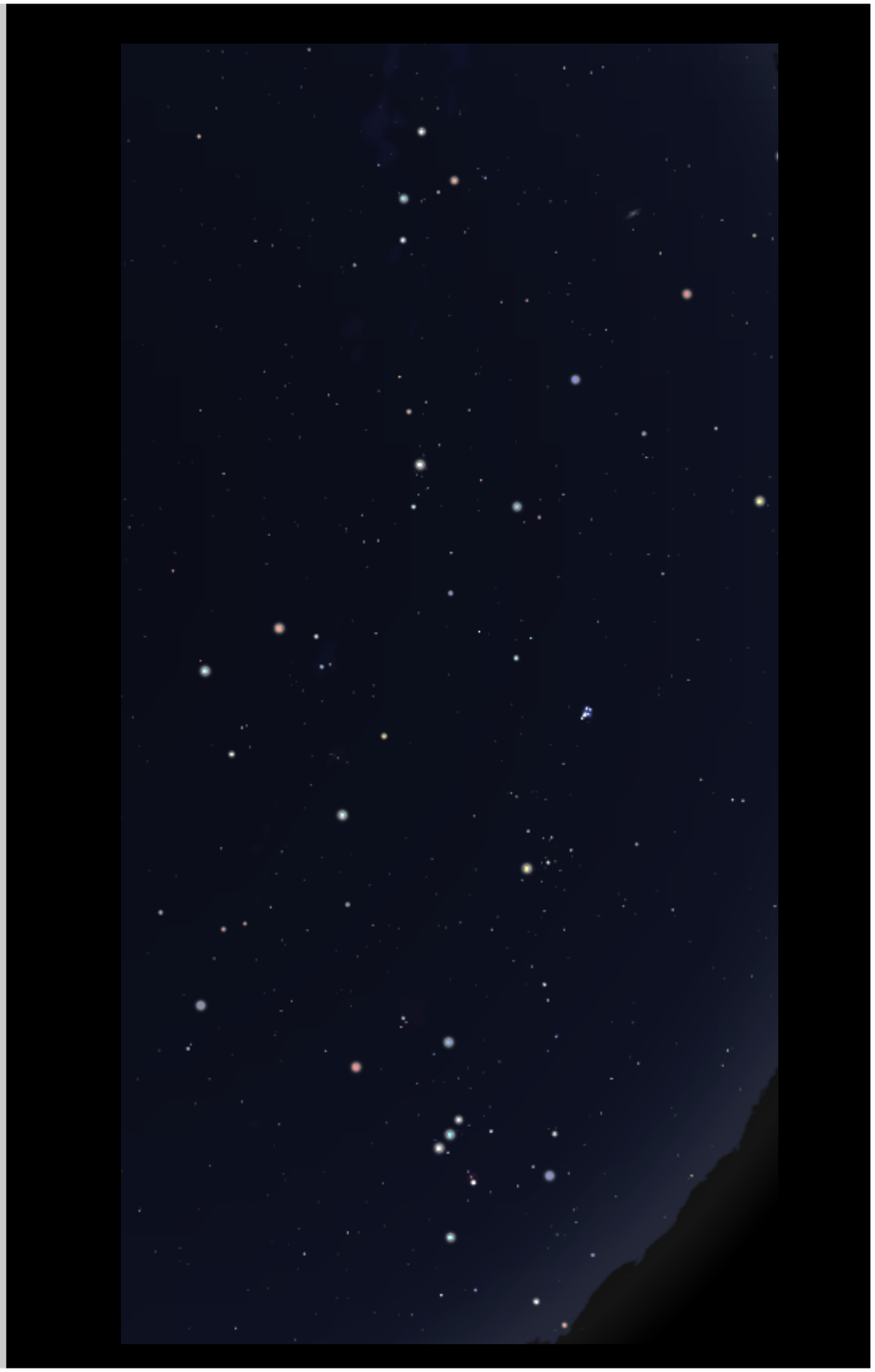
Heino Eelsalu (1930-1998) was the first, who mentioned in his book *Ajastult ajastule* (From Era to Era) that this saying must be at least 3500 years old.

In this period was the point of Vernal Equinox (it moves due the precession 1 deg in 75 years) in constellation Taurus and helical rise of Pleiades was possible, if they raised significantly earlier than Sun. So the helical rise of this well known and specific star cluster idicates, that the vernal equinox (spring point) was passed and the spring began.

The great change from hunters community to the agricultural society was on Estonian area by archeolgic data about 5000 years ago. Pleiades was at that time easy visible morning constellation. Said, that the echo of distant times is recorded mostly in the archaic songs and the short forms are quite modern. But the long life of this saying is probably one small milestone in social memory of our community and it remembers the great changes from the very distant past.

# 3. The Winter Peak

One article of Heino Eelsalu, published in his book *Ajastult ajastule* (From Era to Era) was about possibility of synchronisation the year of lunar calendar with real year.
He wrote that for this reason was used the 13-th month, but the mark of ordering this timekeeping system was Milky Way.
In the old timekeeping system, the Milky Way was primarily a sign of the end and beginning of the year. In the Estonian folk calendar the Winter Peak Day (Feb. 12) should fall on the date when winter has reached its peak and is retreating – the weather starts to become warmer and the arrival of spring approaches Heino Eelsalu has estimated that about 3000 years ago this coincided with the winter solstice. Today the peak of winter has shifted, due to the precession of the spring point to the end of January or beginning of February.
Synchronisation itself was simple, if in winter was Milky Way lower after the fullmoon as before, then the the winter peak was over and  the New Year was started.



Thank You!