

**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 3
THEATRE AND EARTH SCIENCE**

**From Sky to Stage
“Sun, Moon and Stars” Investigations 3
Lesson #3**

CONTENT STANDARDS

Theatre

- 1.1 Use the vocabulary of theatre, such as character, setting, conflict, audience, motivation, props, stage areas, and blocking, to describe theatrical experiences.
- 5.2 Develop problem-solving and communication skills by participating collaboratively in theatrical experiences.

Science

ES4a Students know the patterns of stars stay the same, although they appear to move across the sky nightly, and different stars can be seen in different seasons.

ESSENTIAL QUESTIONS

- How should an audience behave?
- What is tableau?
- What is a constellation?
- Why do we see different stars in the summer winter night skies?
- How do constellations get their name?

OBJECTIVES & STUDENT OUTCOMES (*Students will...*)

- create group tableaux of constellations during different seasons.
- participate in a staged tableau depicting the constellation during different seasons.
- identify different constellations.
- understand why we see different stars during different seasons.

ASSESSMENT (*Various strategies to evaluate effectiveness of instruction and student learning*)

- **Feedback for Teacher**
 - Observation of staged constellation tableaux
 - Video of Classwork
- **Feedback for Student**
 - Student/Teacher responses
 - Video of Classwork

WORDS TO KNOW

Theatre Grade 3

- **Actor:** A person, male or female, who performs a role in a play or an entertainment.
- **Audience:** People who watch, listen and respond to live theatre.
- **Tableau** - a silent and motionless depiction of a scene created by actors, often from a picture. The plural is *tableaux*
- **Ensemble** - a group of theatrical artists working together to create a theatrical production.

Earth Science Grade 3

- **Astronomer:** A scientist who observes and studies objects in the universe including the stars, planets, and moons.
- **Constellation:** A group of stars humans observe in a pattern and give a name.
- **Observatory:** A building that protects large telescopes. Observatories are often found on mountain peaks above the dust and pollution in the air.

MATERIALS & PREPARATION

- Copy of *Constellation images* (included)
- Copy of *Constellations by Seasons* (included)
- Science notebooks (1 per student)

RESOURCES

- *FOSS Kit California Edition Grade 3, "Sun, Moon and Stars" Investigations 3*
<http://www.fossweb.com/ca/modules3-6/SunMoonandStars/index.html>
- *Constellation Legends*, Norm McCarter:
<http://www.tcoe.org/SCICON/InstructionalGuide/Constellations.pdf>

WARM UP *(Engage students, access prior learning, review, hook or activity to focus the student for learning)*

(10 minutes)

- Direct the **actors** to stand in random spaces in the room.
- Say:
When I say move I want you to move around the room in as many different ways you can. Listen carefully because I could say "freeze!" at any moment and you have to freeze in a pose that you think will make interesting constellation.
- Go over with the students your expectations on behavior for moving around the room.
 - Avoid touching other students.
 - Move at a safe speed.
 - Avoid talking.
 - Any others as needed
- Say:
Remember, when I call out "freeze!" you have to freeze and hold until I tell you to move around the room again. When I do say "freeze!" I am then going to point at somebody. If I point at you, you have to unfreeze and describe your frozen position (statue) in one sentence.
- Give the signal for students to move around the room.
Optional: Play music to signal movement then pause music for students to freeze.
- After about a minute, call out "freeze!"
- While the students are frozen, walk around the room and point at one student to unfreeze and have them describe their frozen position (statue).
- After the student has described their statue, give the signal for the students to move around the room again in a creative way.
- Continue to freeze and unfreeze students.

MODELING *(Presentation of new material, demonstration of the process, direct instruction)*

(20 minutes)

- Say:
*When you look up into the sky on a clear night you can see many stars. Does anybody remember about how many we can see on a clear night? [2000] Ask students to recall what we call groups of stars that form a pattern. [Stars that seem to form a group are called **constellations**.] Ask students to explain how **constellations** were named. [Constellations were named from stories.] Remind students that the names people gave the constellations did more than just help them remember them, they brought the sky to life, with images of kings and queens, heroes and princesses, beasts foul and fair, telling ancient tales of adventure, and romance. So as you look up into the night sky think of it as a theatrical production or play, and how just like a theatre during different times of the year, you will see different plays being performed. Today you are going to be **actors** who will bring to life some of these constellations.*
- Call on six students to come up to help you put on a small theatrical production.
- Explain to the six students and the class you are going to give them a copy of an image that represents a **constellations** from each of the four seasons.

- Assign four of the students a **constellation** they will be representing and give them a copy of the image that goes with the **constellation** they were assigned.
- Assign the remaining two students to represent the Sun and Earth.
- Explain to the students that the sun will be in the center of the acting space and not move while the Earth rotates and orbits around the sun.
- Tell the student actors they will need to create a frozen picture or **tableau** showing their character or **constellation**.
- Remind the students about how they created tableaux during the previous lesson and that when they are in their tableau they need to stay still.
- Explain to the students you are going to be the director, which is the person in charge of the play and the one who tells the actors where to move on stage.
- Direct each of the four students to stand north, east, south, or west of the acting space with the student playing the Sun standing center and the students playing the Earth next to the sun.
- Once the students are in place give them a signal to get into their tableau. [Side coaching can be given quietly by the teacher.]
- Explain to the rest of the class the student playing the Earth is the audience.
- *Ask:*
 - *Can the Earth see all the actors all of the time? Why? Why not?*
 - *When the Earth orbits, what keeps the earth from seeing the other constellations?*
- Ask for the student actors to take a bow and invite the audience to applaud for the performers and have the performers return to their seats.

GUIDED PRACTICE (*Application of knowledge, problem solving, corrective feedback*)

(15 minutes)

- Divide the class in to five groups.
- Assign four of the groups a season and handout out appropriate **constellation** images for each of their seasons.
- Assign the reaming group the role of Earth.
- Explain to the students that you, the teacher, will represent the Sun.
Direct the four constellation groups to work in four different areas around the perimeter of the classroom. [The groups should be placed in clockwise order winter, spring, summer and autumn.]
Instruct the students to create a **tableau** of their assigned **constellation** or character and to practice holding their tableau.
- The teacher will demonstrate to the Earth group how to represent rotation of the Earth.
- For the students to represent the rotation of the Earth they will each hold up their right hand as if holding a ball and rotate the hand at the wrist back and forth. To represent orbiting, the group will move together around the Sun, always keeping their back to the Sun.
- Explain to the students that once the performance starts as the Earth orbits the Sun (Teacher) the teacher will announce the season. That will serve as the signal for each group to freeze into their tableau.
- If time permits, change out the group so that students can experience being the Earth or different seasons.
- Ask the students to take a bow and have everyone give each other big round of applause.

DEBRIEF AND EVALUATE (*Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet expected outcomes?)*

(5 minutes)

- Bring group back together and have them report out.
- *Ask:*
 - *How did you use **tableaux** to convey to the **audience** your **constellation**?*
 - *Could the Earth **audience** see you all the time?*
 - *When could the Earth **audience** not see you? Could see you?*
 - *How did this activity show you why it appears stars move in across the sky?*
- If possible, show video of selected performances to support student feedback.

- Have students respond to the following prompt in their science notebooks:
 - *How did this activity show you why it appears stars move in across the sky?*

EXTENSION *(Expectations created by the teacher that encourages students to participate in further research, make connections and apply understanding and skills previously learned to personal experiences.)*

- Using the same technique, students create simple **tableaux** from other curriculum areas.
- Students can rehearse their **tableaux** and memorize their stories of their **constellations** and perform them for parents or another class.

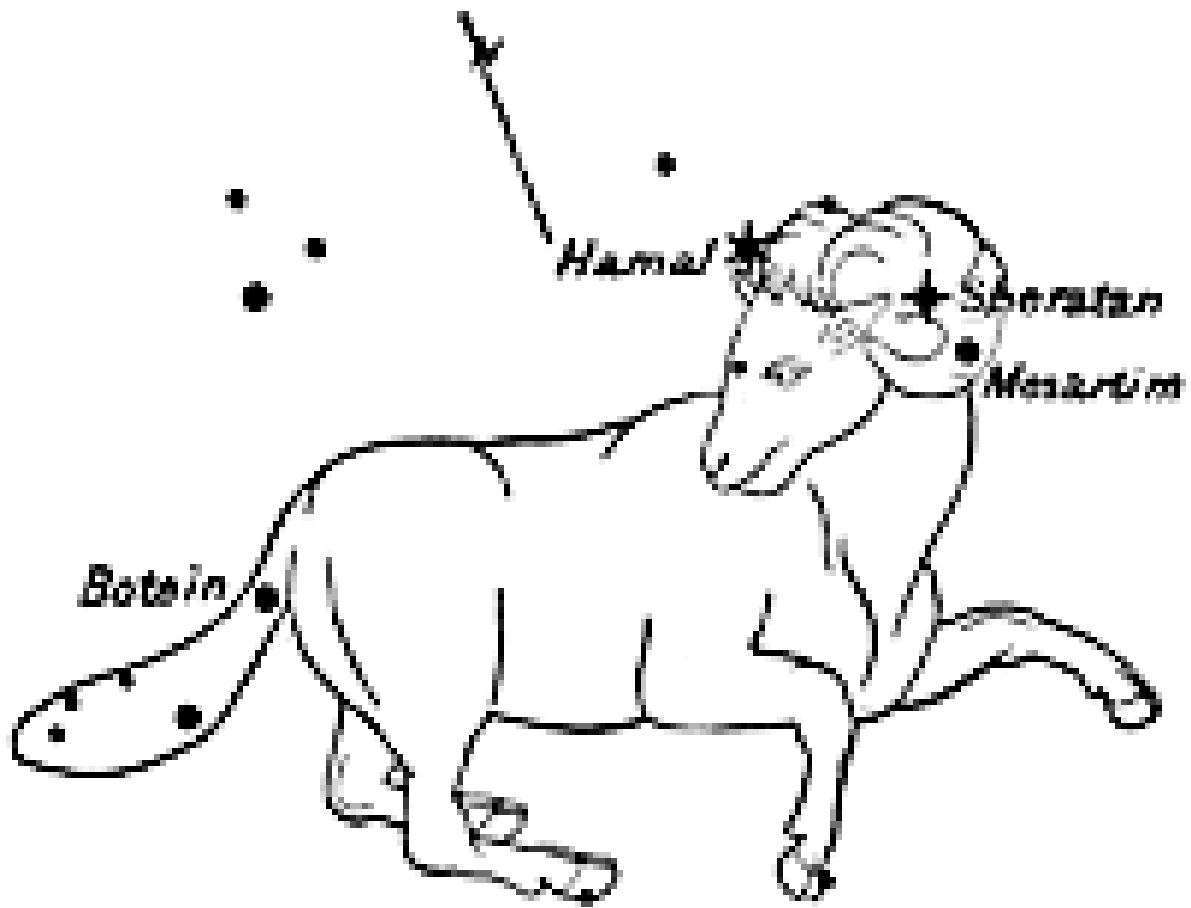
ANDROMEDA
The Chained Maiden



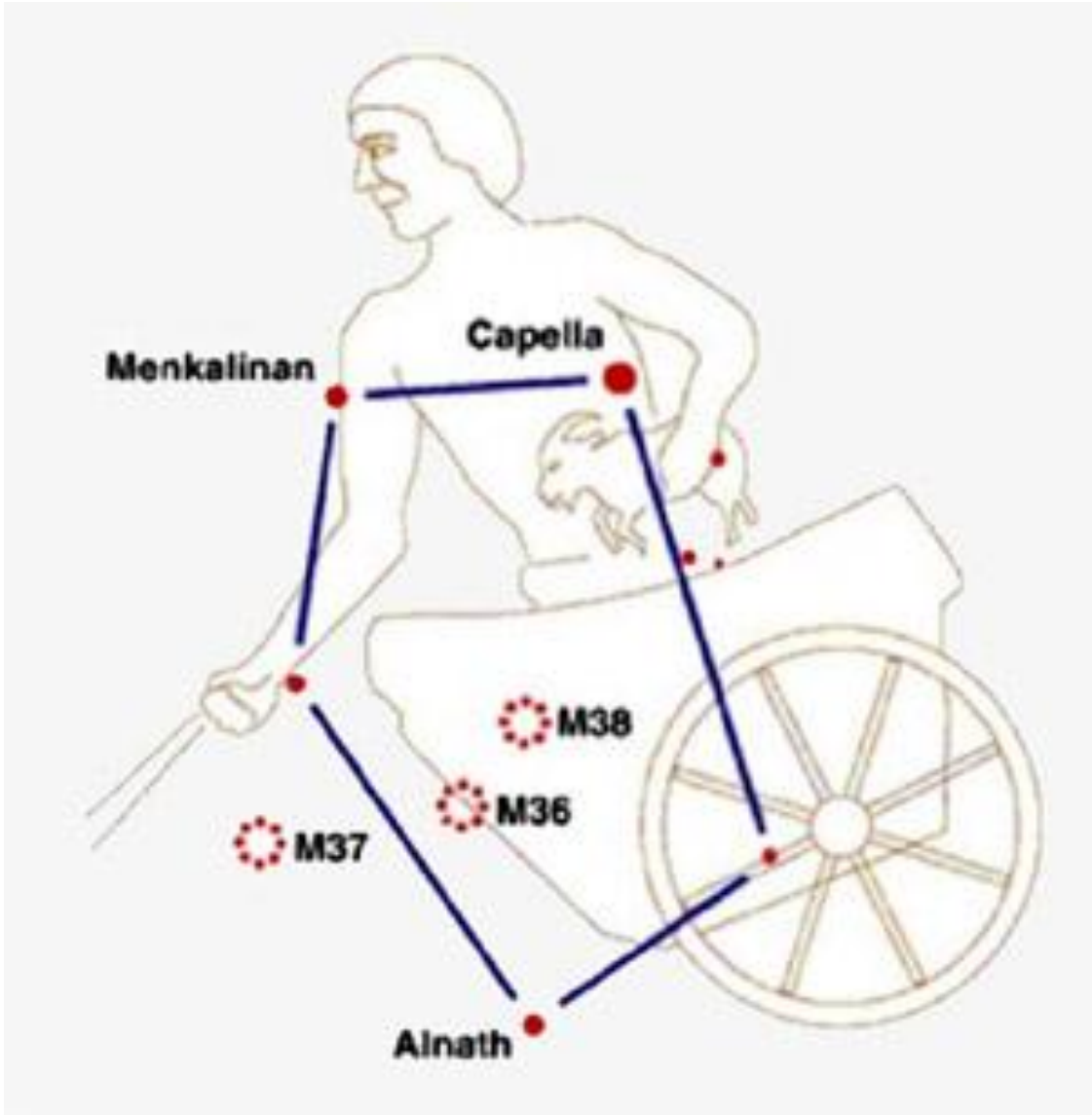
ANDROMEDA ~ FALL



AQUARIUS ~ SPRING



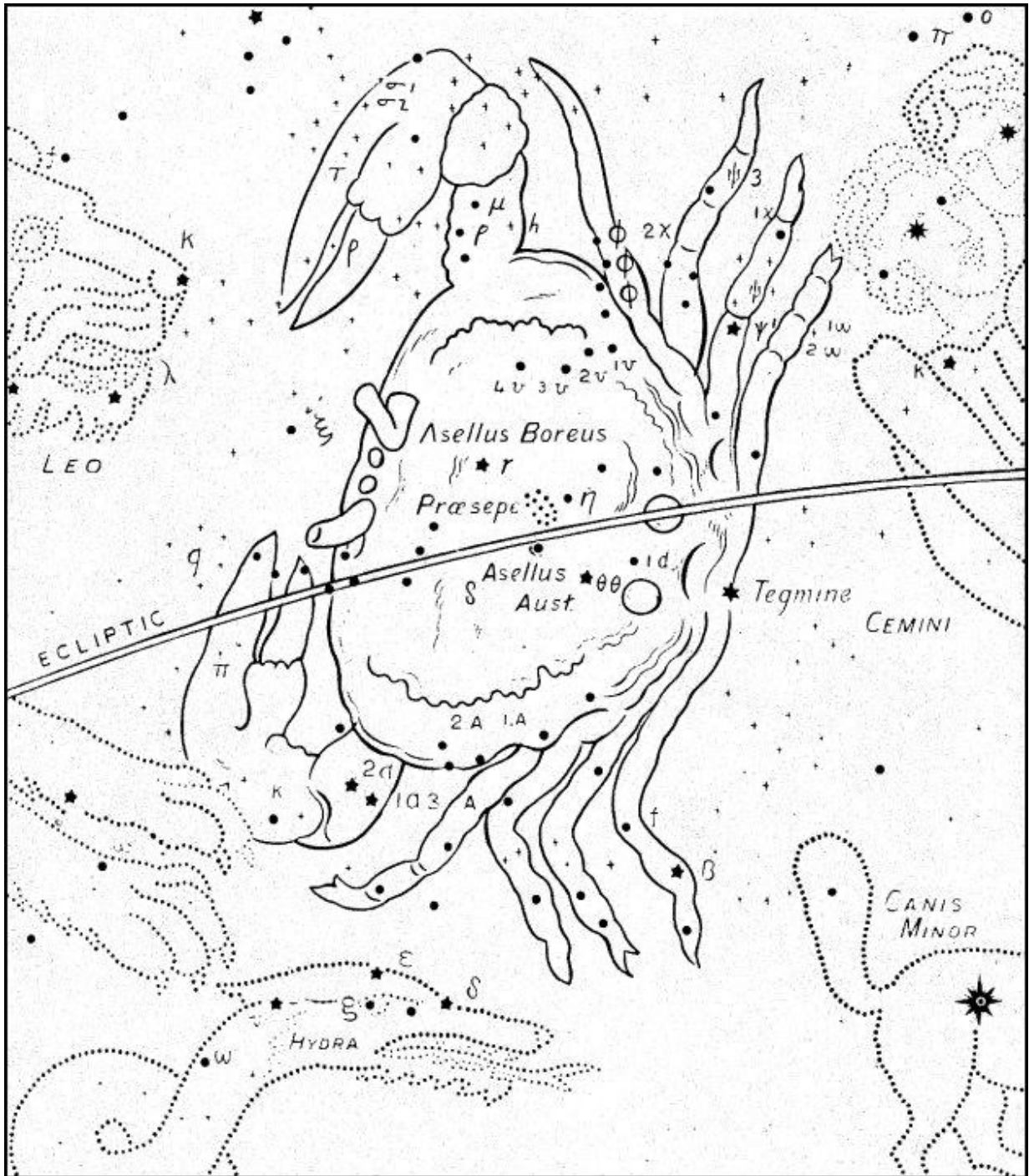
ARIES ~ FALL



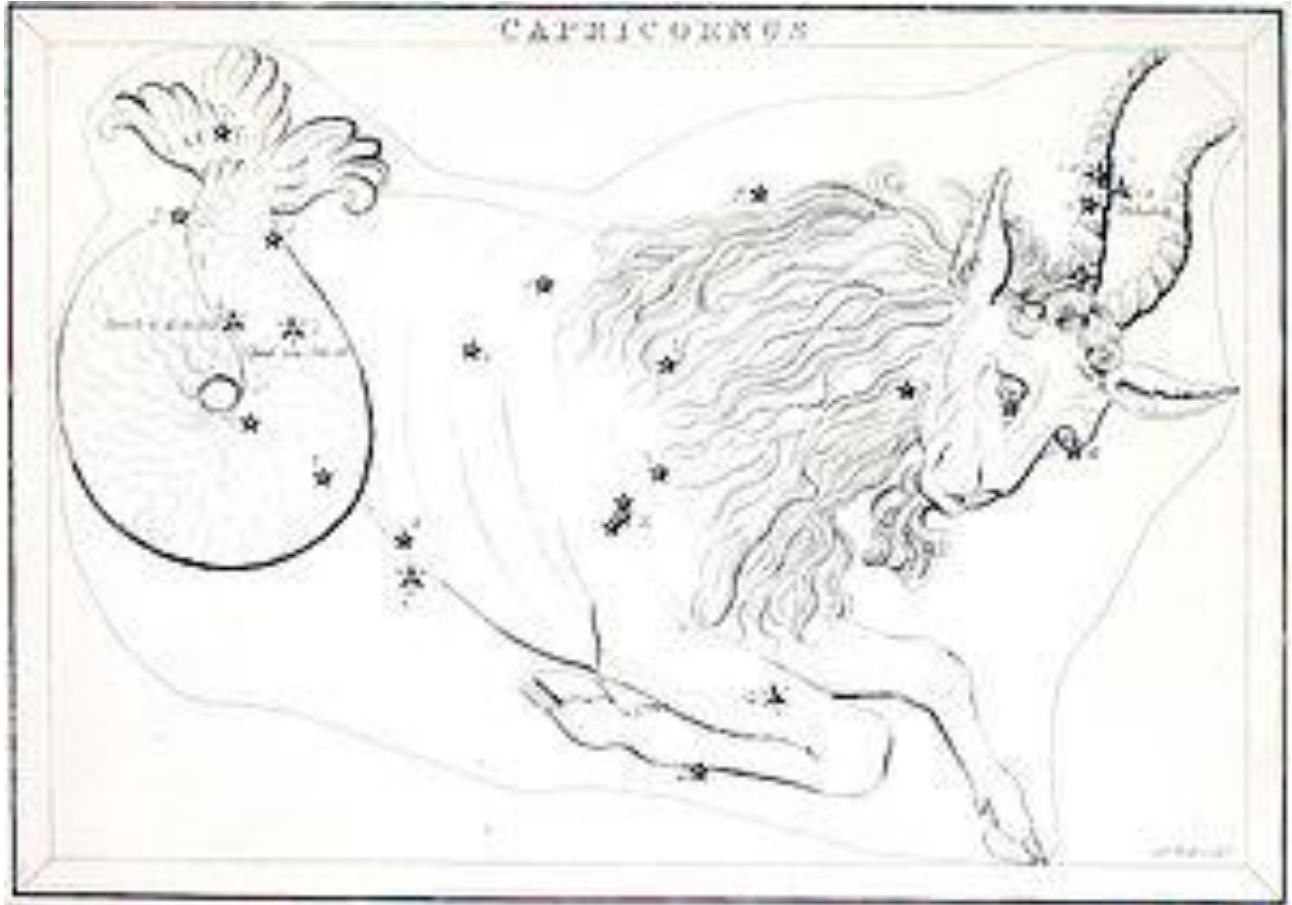
AURIGA ~ WINTER



BOOTES ~ SPRING



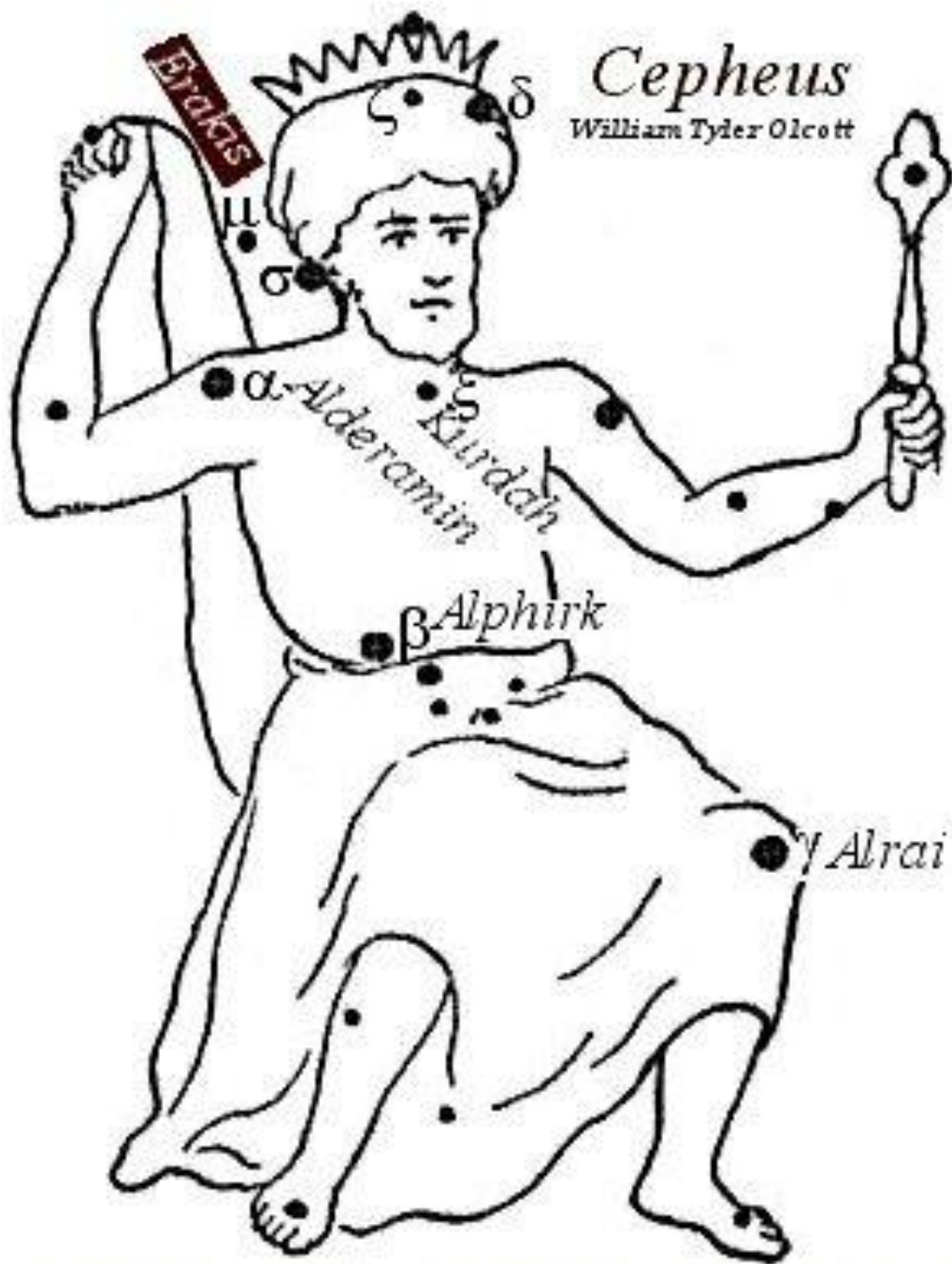
CANCER ~ SPRING



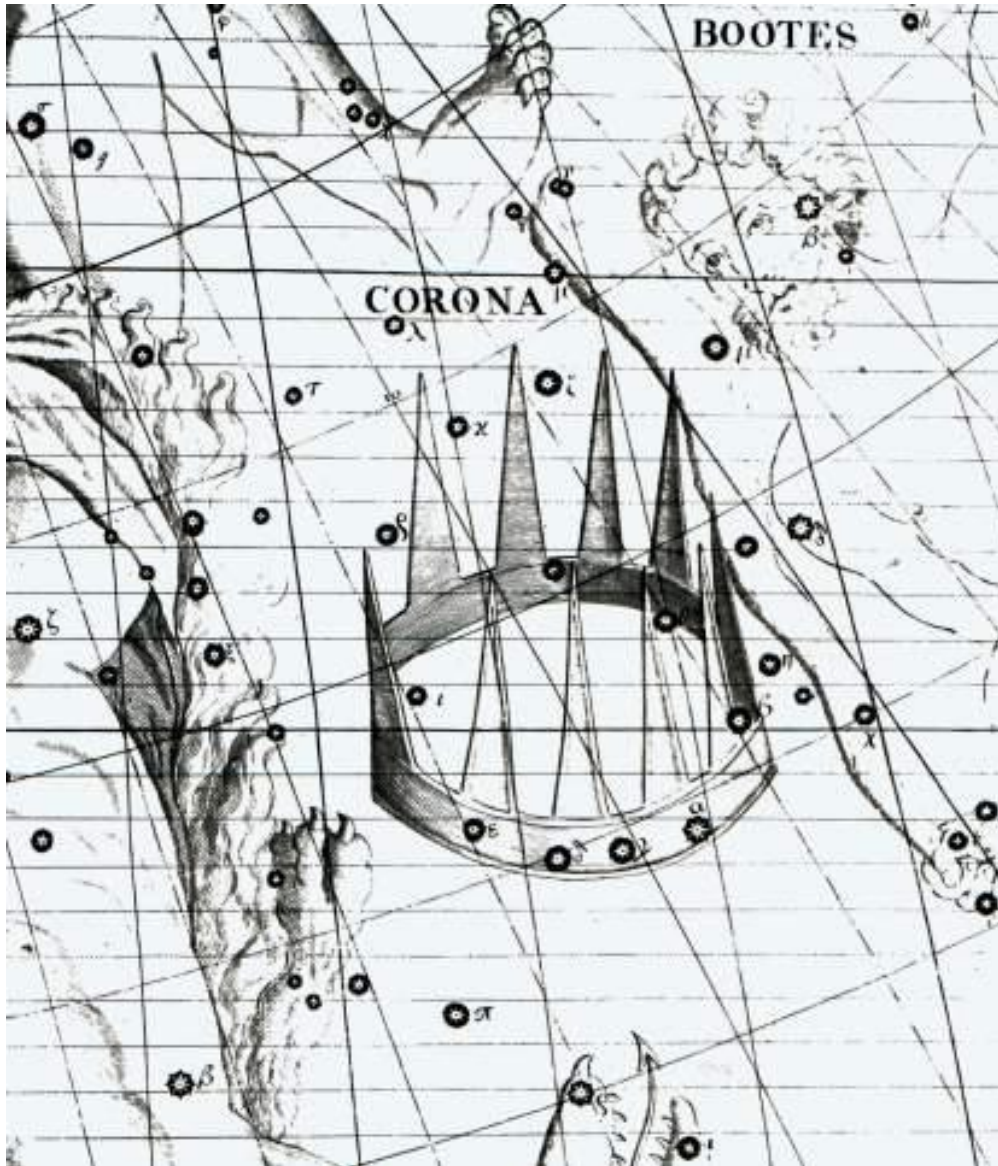
CAPRICORN ~ SPRING



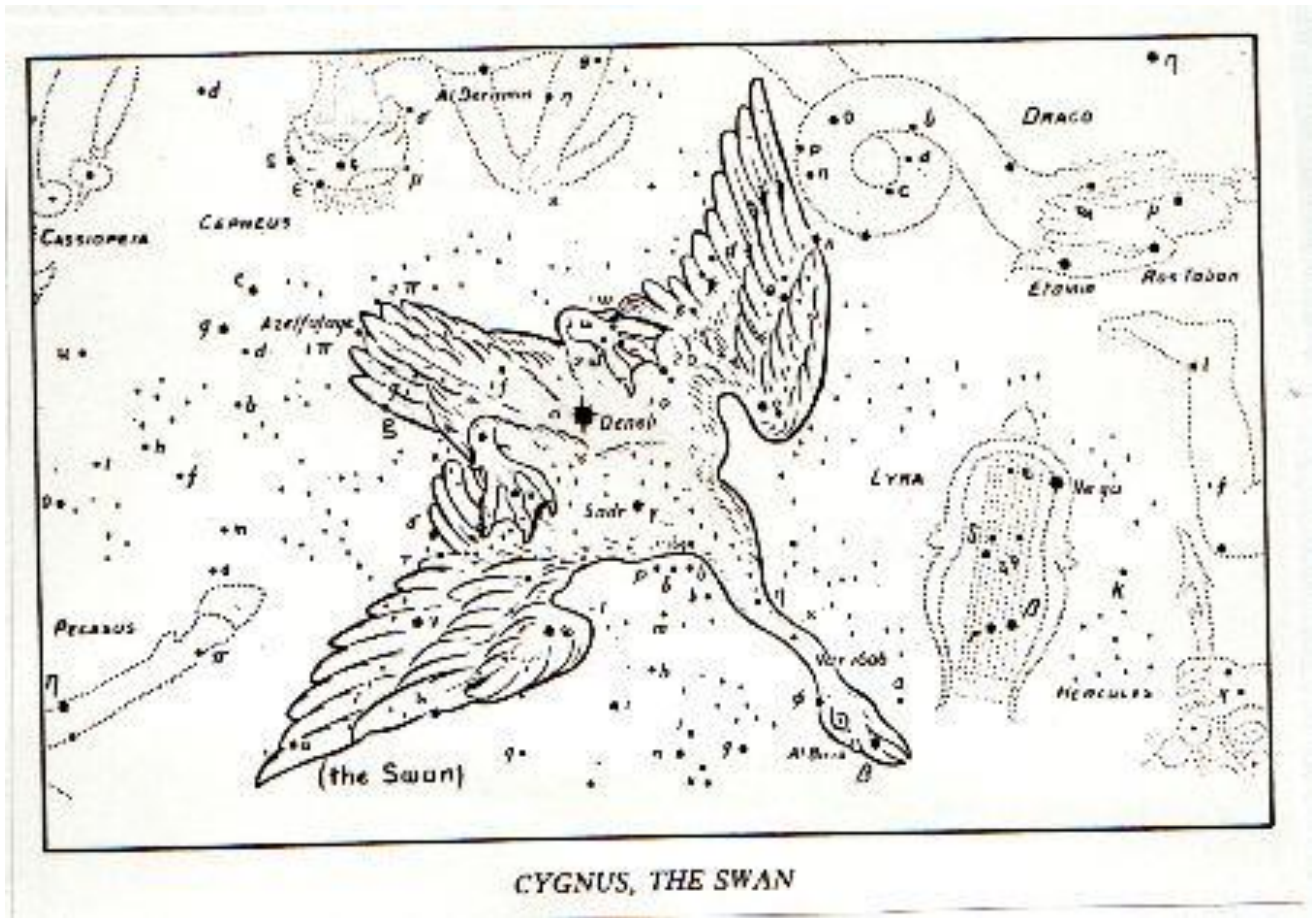
CASSEOPIA ~ CIRCUMPOLAR



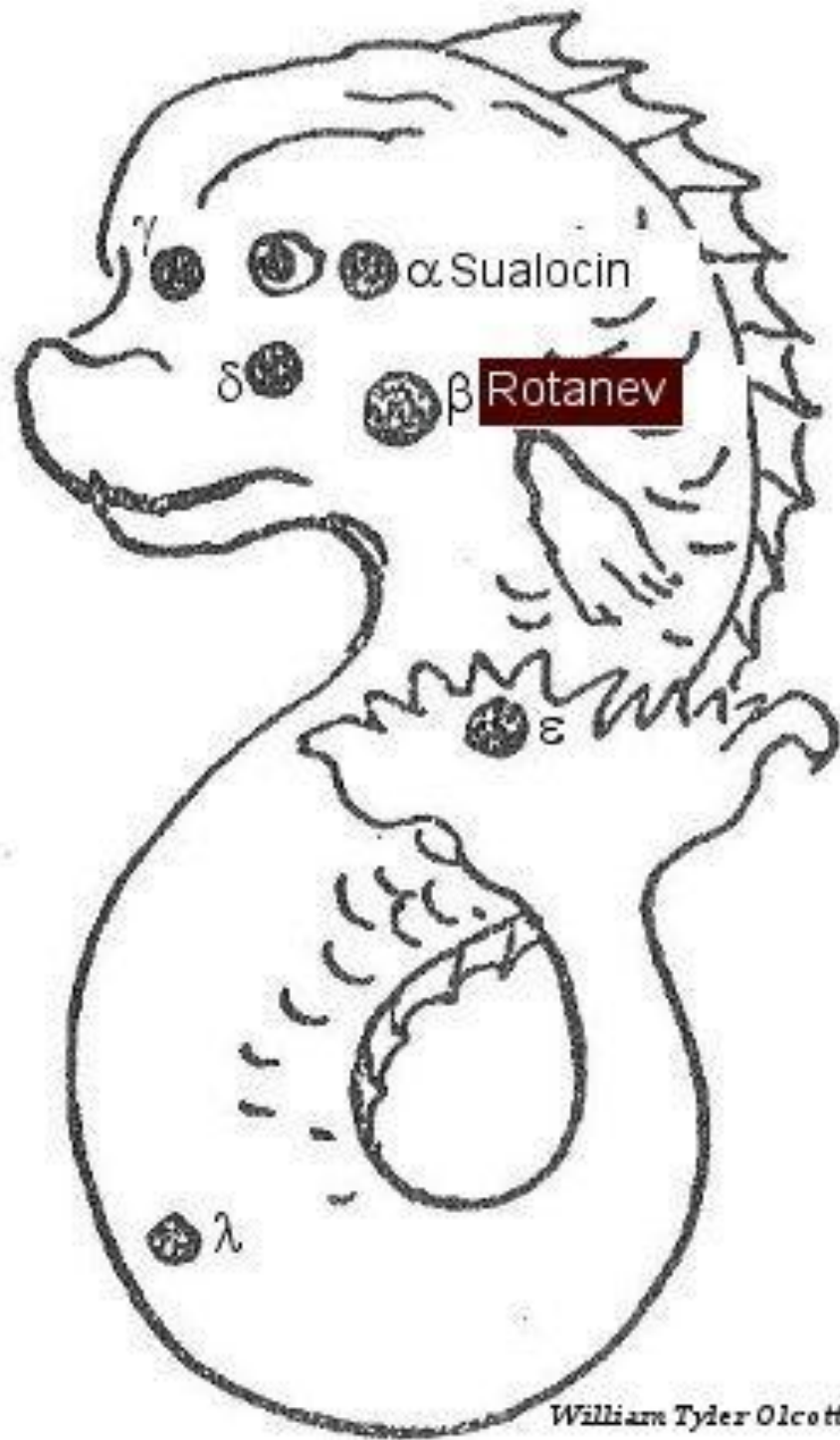
CEPHEUS ~ CIRCUMPOLAR



CORONA BOREALIS ~ WINTER



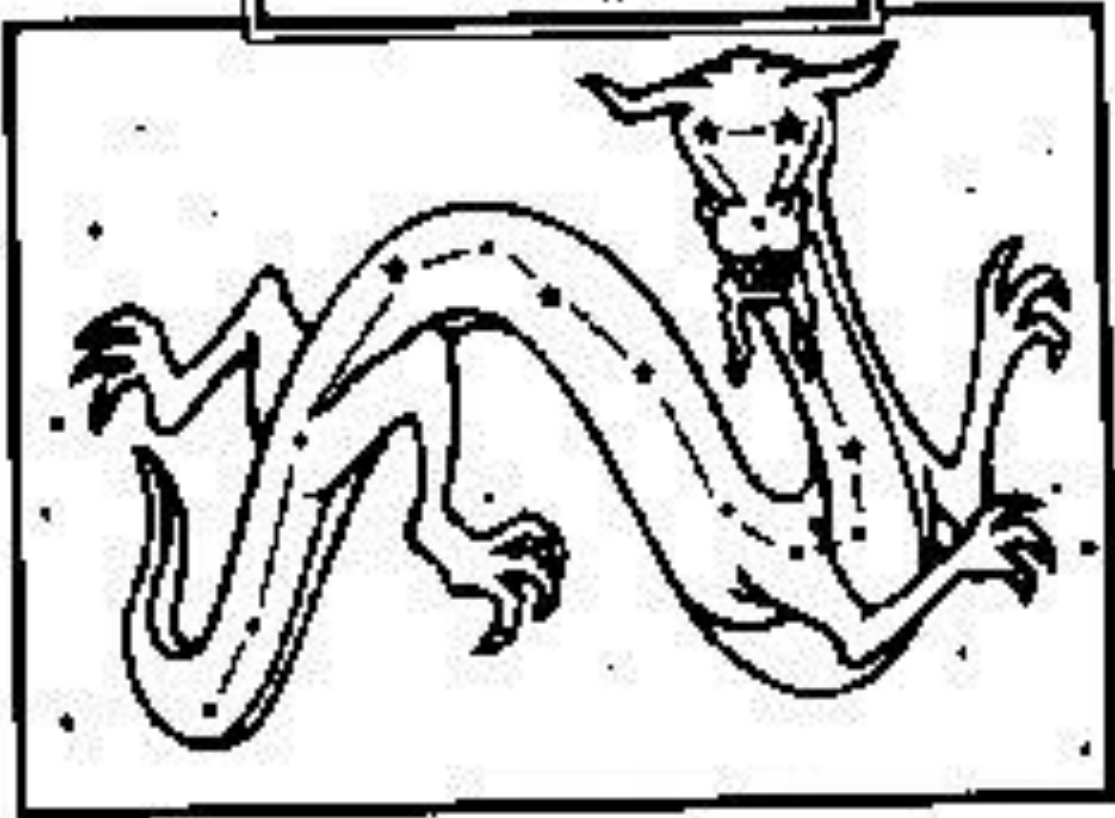
CYGNUS ~ SUMMER



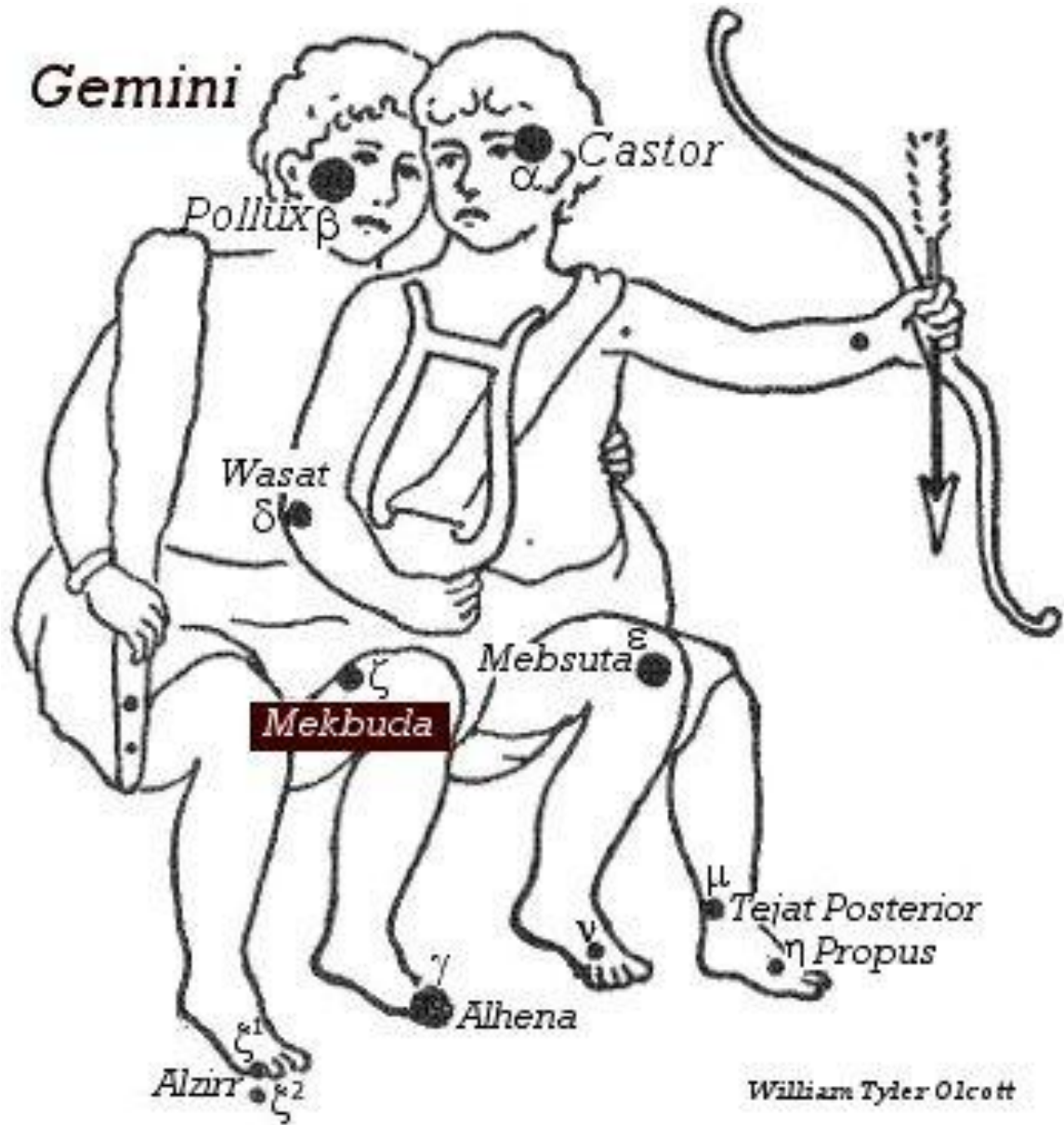
DELPHINUS ~ SUMMER

DRACO

The Dragon



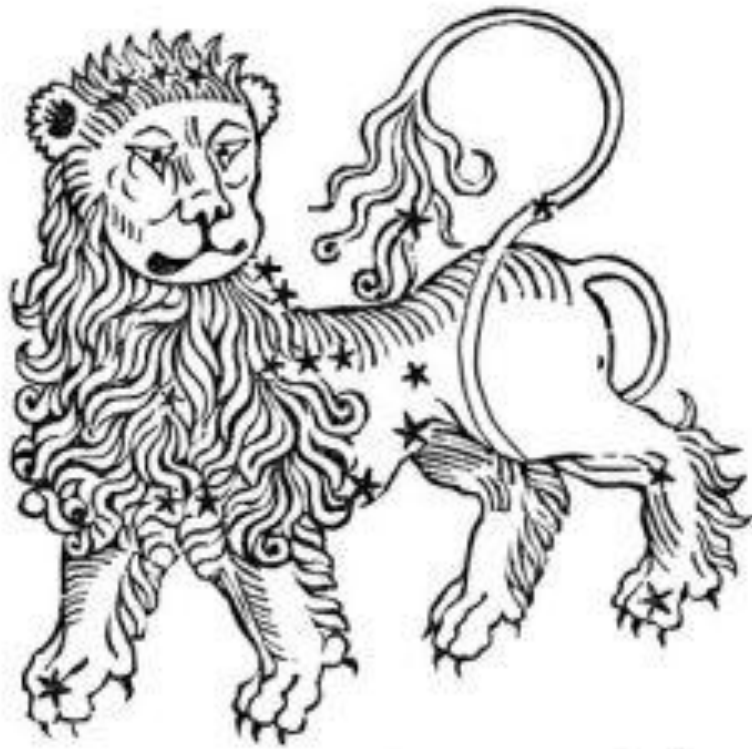
DRACO ~ CIRCUMPOLAR



GEMINI ~ WINTER



HERCULES ~ SUMMER



SCIENCE¹⁰⁰PHOTO^{ε 4}LIBRARY

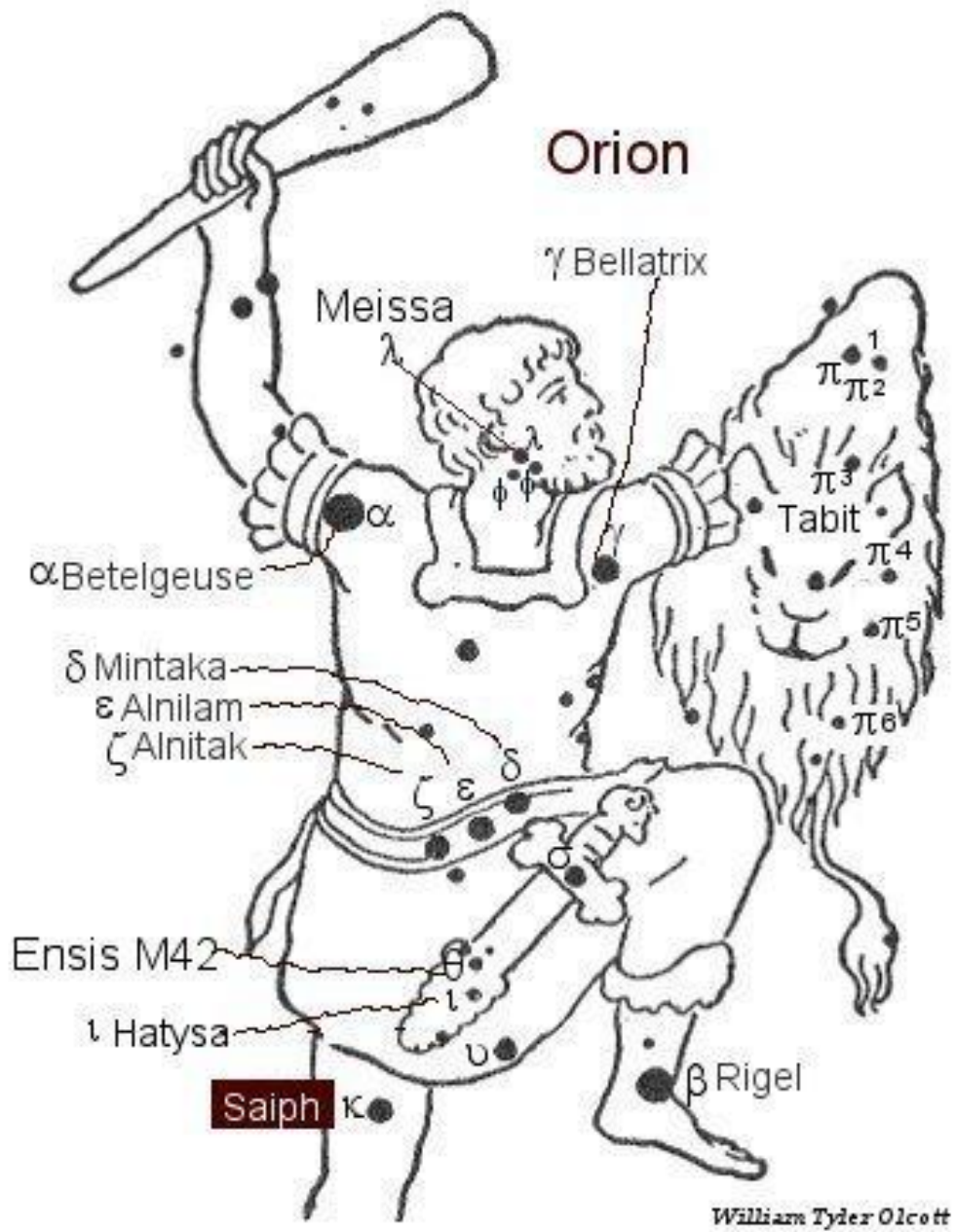
CYGNUS ~ SPRING



LIBRA ~ WINTER



LYRA ~ SUMMER

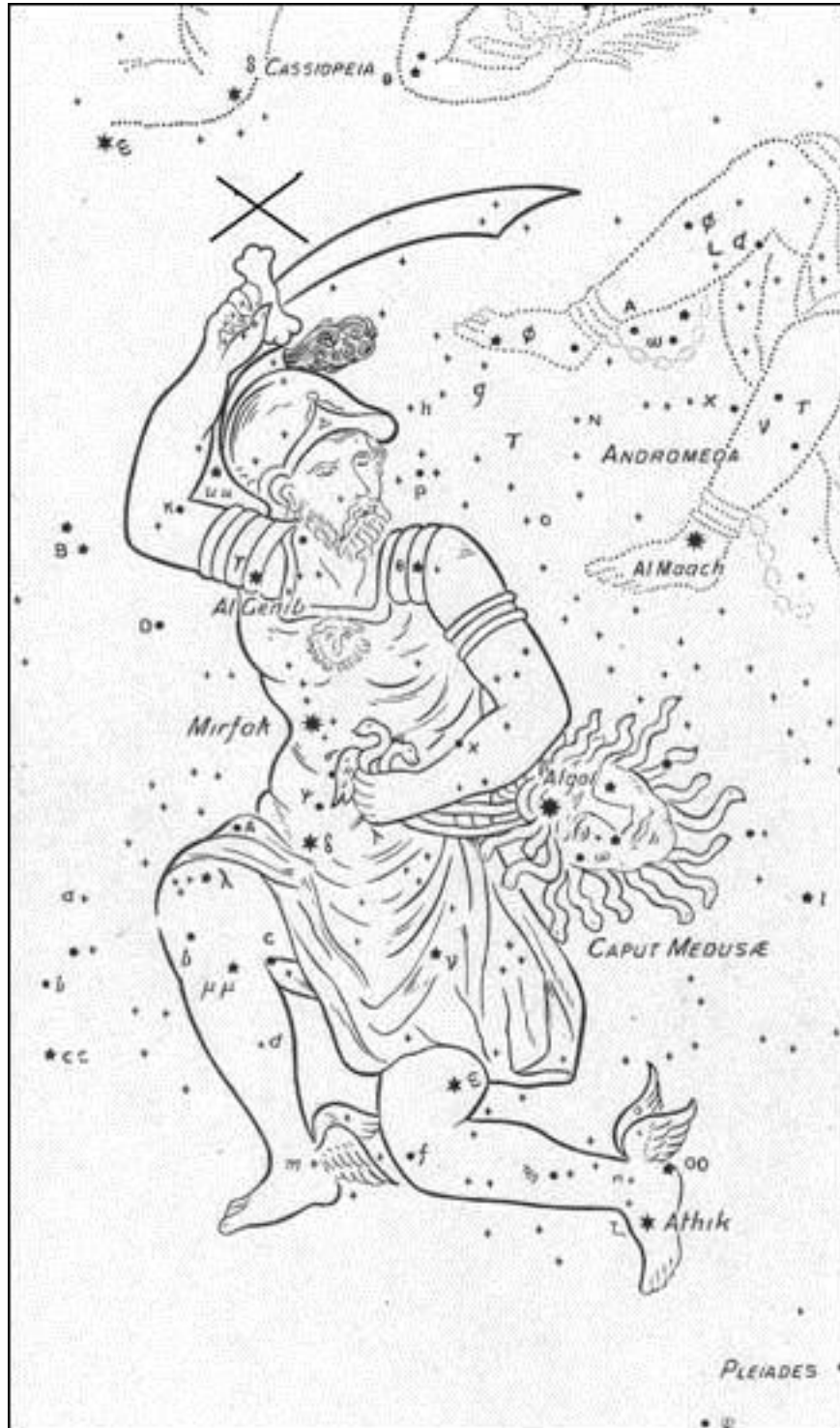


ORION ~ WINTER

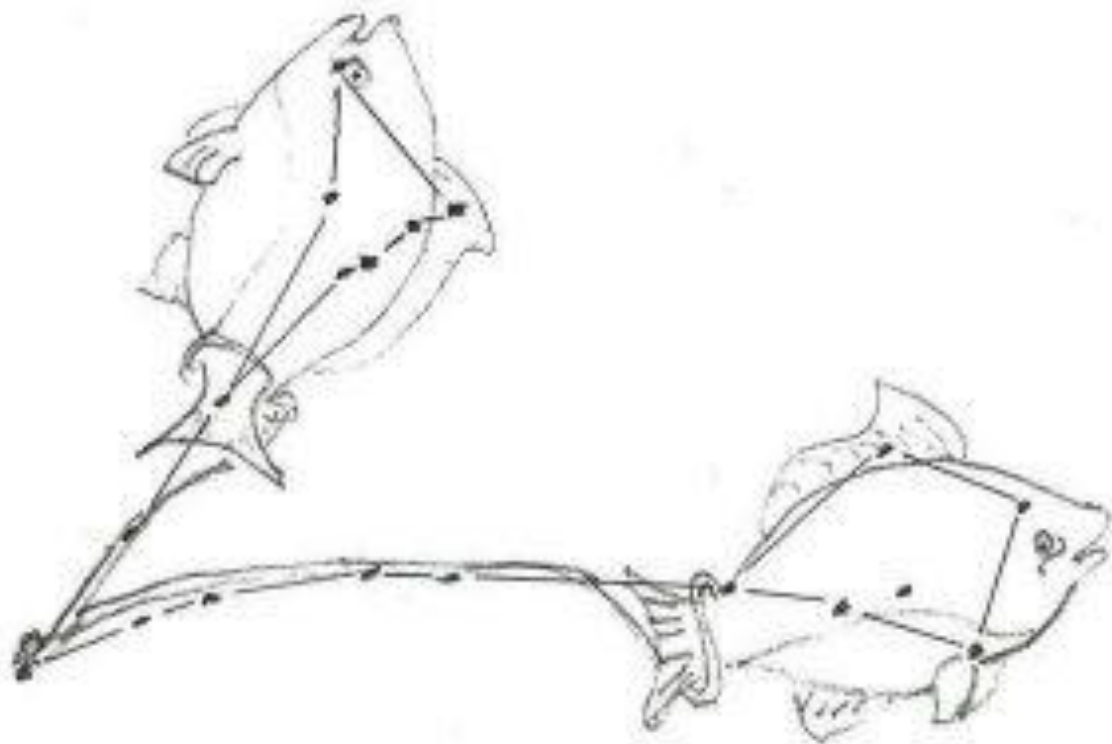


Pegasus or Pegasos.

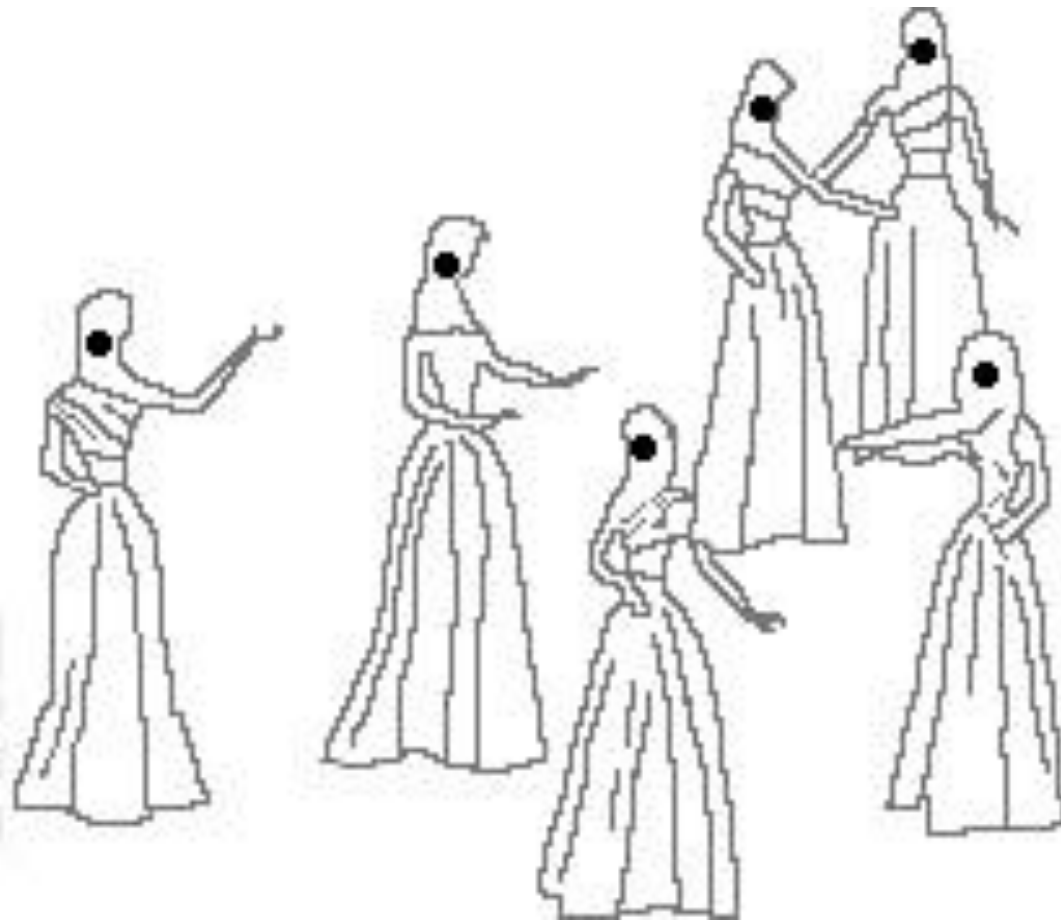
PEGASUS ~ FALL



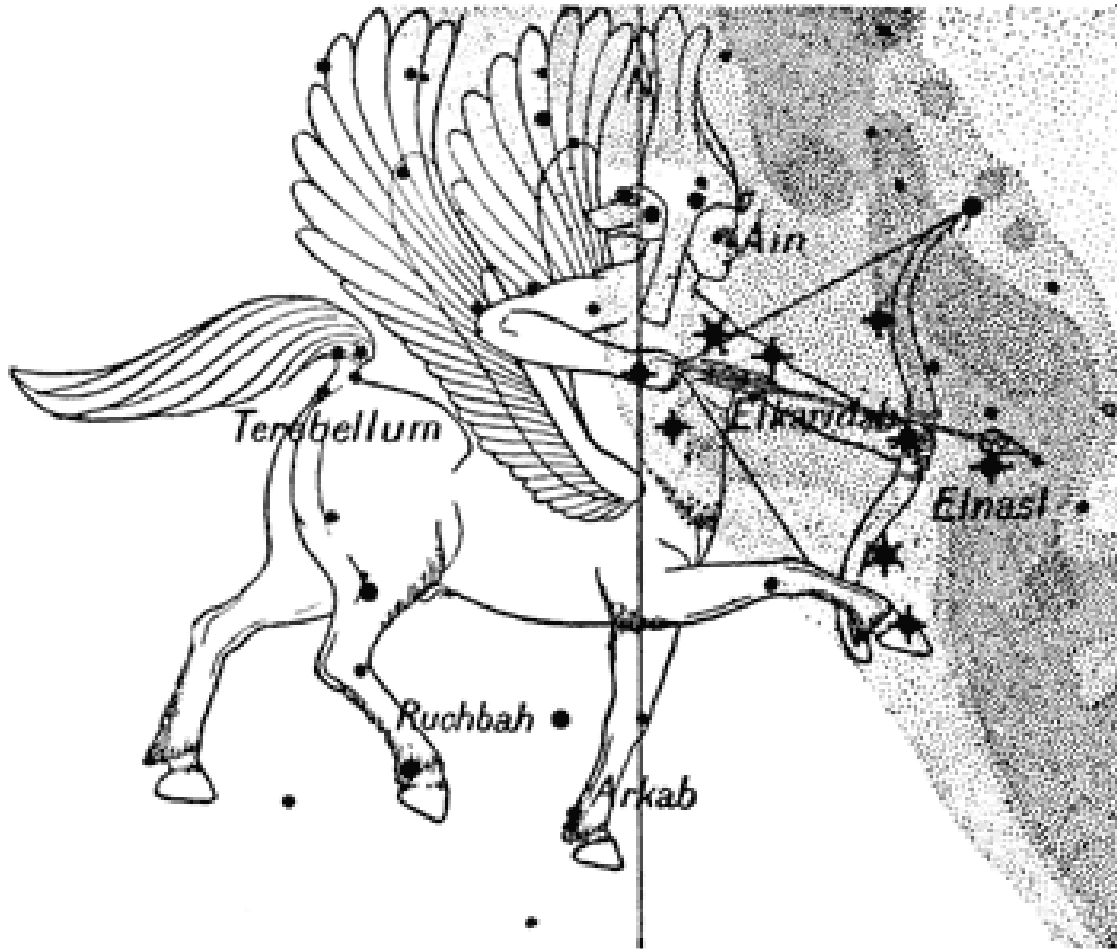
PERSEUS ~ WINTER



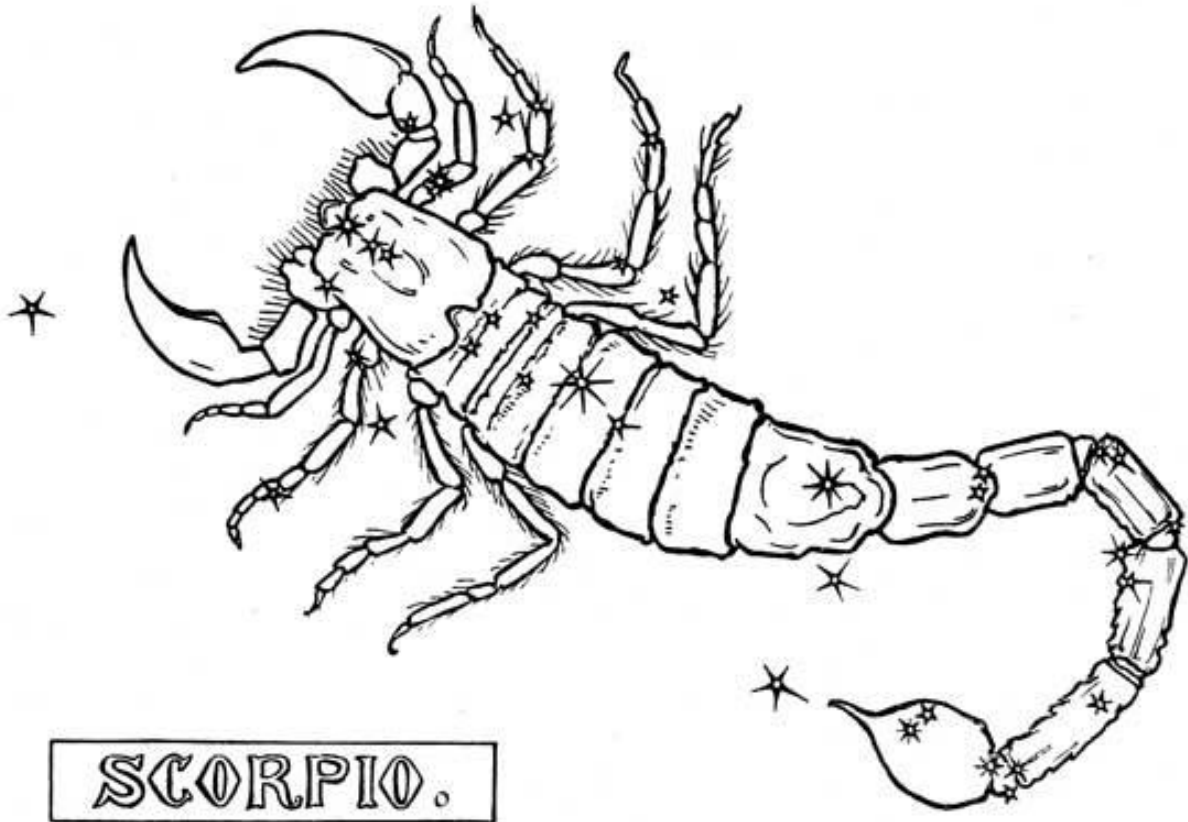
PISCES ~ FALL



PLEIADES ~ WINTER



SAGITTARIUS ~ SUMMER



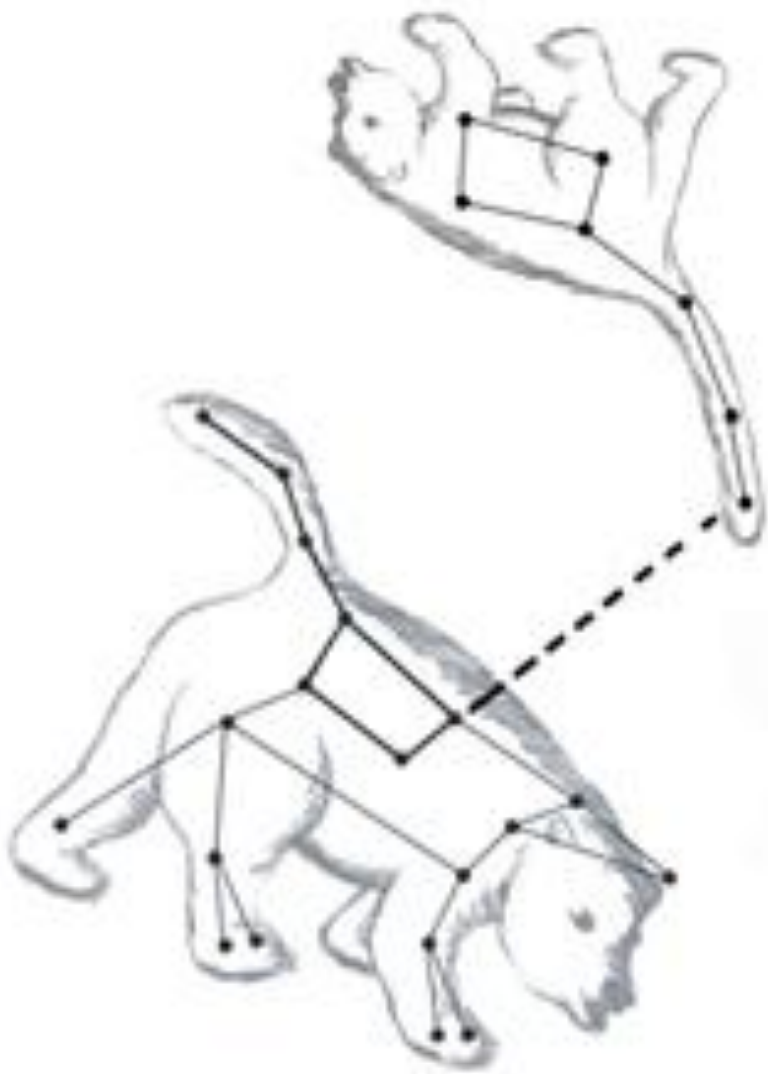
SCORPIO ~ SUMMER

TAURUS

The Bull



TAURUS ~ WINTER



URSA MAJOR AND URSA MINOR CIRCUMPOLAR



Virgo SCIENCEphotOLIBRARY

VIRGO ~ SPRING