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[00:00:18] Jordan: Hi, I'm Jordan.

[00:00:19] Kit: I'm Kit.

[00:00:21] Jordan: Welcome to *Starry Time*, where stars plus lines-

[00:00:25] Kit: Equals stories.

[00:00:26] Jordan: Today, we're going to be continuing our exploration of the constellations, Ursa Major and Ursa Minor, the big and small bears of the night sky.

[00:00:36] Kit: Initially, we thought we might try to separate out the myths of these two constellations, but the myths about them do overlap a lot, so rather than try to create artificial boundaries like the IAU. We're going to talk about them together.

[00:00:52] Jordan: There's quite a bit of overlap. In fact, I would say you can't have Ursa Minor without Ursa Major. Although both of these constellations were identified in Ptolemy's *Almagest*, these patterns in the night sky have a much longer history, and have actually been the basis of many different myths, and folklore across the globe.

[00:01:12] Kit: It would be really, really difficult to summarize all of these stories, so we're going to do a quick rundown of some of our favorites, or ones that stood out to us before we go into a bit of a deeper dive into the Greco-Roman myths, so if we don't mention your favorite, or you know of other ones, be sure to let us know over on our socials, where we'll be sure to post some sources to learn more.

[00:01:34] Jordan: We're at the *Starry Time* pod, uh, on the Universeodon server of Mastodon. The link will be in the show details.

[00:01:40] Kit: Let's start with ancient Babylonian, and ancient Chinese astronomy. An ancient Babylonian star-lore, according to Gavin White's book on the topic, the seven bright stars of Ursa Major were associated with the constellation, the Wagon, essentially highlighting the importance of wagons. Meanwhile, Ursa Minor was associated with the Wagon of Heaven, which was a different wagon. Interestingly, Polaris had its own name, which was the inheritor of the Exalted Temple.

[00:02:15] Jordan: Love it.

[00:02:17] Kit: Yes, and this is because the Babylonians knew that this star would become the North Star. During their time, a star in the constellation Draco was the North Star, but they knew over time that Polaris would inherit this very important position in the night sky.

[00:02:32] Jordan: The idea of these constellations as wagons, or chariots is also seen in Celtic mythology, medieval folklore, and in Norse and Viking mythology,

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where Ursa Minor was the woman's chariot, and Ursa Major was seen as the man's chariot for Thor and Freya, perhaps.

[00:02:52] Kit: In ancient Chinese astronomy, Ursa Major is located in the purple forbidden enclosure, and the asterism of the Big Dipper that we know is known as the Northern Dipper, and it's associated with the chariot of an emperor, and as a mark of death, whereas the Southern Dipper, located in Sagittarius, is associated with birth, but other parts of this constellation are located in other asterisms in ancient Chinese astronomy, including judge for nobility, guarded the sun, as well as some others.

[00:03:24] Jordan: Ursa Minor is also in the purple forbidden enclosure, but the stars of Ursa Minor were split across several asterism, including the Northern Pole, the Four Advisors, the Royal Secretary, the Celestial Bed, and the Curved Array, which is associated with the Princess of Heaven, or possibly an emperor's harem.

[00:03:48] Kit: [chuckles] Those seem different.

[00:03:52] Jordan: Kit. We will definitely need a deep dive into ancient Chinese astronomy once we make our way through the 88 IAU constellations.

[00:04:00] Kit: Maybe Season 7 of *Starry Time*, everybody stay tuned.

[00:04:03] Jordan: Some of my favorite myths and folklore about these constellations come from indigenous traditions, and there are a number of different versions of the Ursa Major and Ursa Minor myths in these cultures. For example, for some Inuit traditions, Ursa Major is the story of four hunters who are following a bear. The bear climbed into the sky, and three of the warriors followed, while one returned to fetch a mitten left on Earth.

The hunter returned to Earth, tells the story of the bear being hunted by the other three warriors. Another example comes from the Wasco people who tell a story of a coyote with five wolf brothers. The wolf brothers spoke to the coyote about two animals in the sky that they saw while hunting, but were unable to reach. Coyote shot arrows into the night sky, which the five wolves climbed up, eventually, finding two grizzly bears.

Coyote climbed back down the arrow ladder, breaking it as it went, keeping the beautiful image of the wolf brothers, and two bears forever in the night sky.

[00:05:06] Kit: Still, other cultures and people saw these constellations as stretchers, a plow, a saucepan, and even as a dog's tail in some ancient Greek versions, which is weird because there's not [chuckles] a dog nearby in the ancient Greek maps. These are just some other examples. If you want to know more, head over to our socials, because there is a ton more myths related to these constellations.

[00:05:34] Jordan: Let's turn our attention to two of the most common Greco-Roman myths that have been associated with these constellations.

[00:05:41] Kit: The first myth is pretty straightforward, and it's related to the Goat star AKA Capella, which we discussed back in Season 2 in our episode on Auriga. Long story short, Zeus is hidden away from his cannibal father, Cronus, and is protected by a variety of nymphs who may, or may not be goats. We don't know. Two of these protectors are Ursa Major and Ursa Minor, who Zeus put into the night sky, either to save them, or as an honor.

In one version, where there are literal bears, the tail of the bear becomes visible, because Zeus grabs them by their small tail, and swirls them up into the sky, causing their tail to grow long.

[00:06:24] Jordan: The second myth, however, is a little bit more developed. It still involves Daddy Z.

[00:06:30] Kit: Oh, and this is a real classic Daddy Z myth. Everybody buckle up.

[00:06:36] Jordan: As most Zeus myths start, this one starts with a beautiful nymph and huntress named Callisto. She is said to be the daughter of Celini, **[unintelligible 00:06:46]** an Oread or mountain nymph, and King Lycaon who is a king of Arcadia.

[00:06:52] Kit: Just a quick side note about this guy. There's not really a good way to say this, so I'm just going to blurt it out. He cooked his son and fed him to Zeus. Zeus was so mad, he turned the king into a wolf, and brought his son back to life.

[00:07:10] Jordan: I mean, if even Zeus is like, "That's a bit too far."

[00:07:15] Kit: Yes. Eek.

[00:07:16] Jordan: Eek. As with most myths we discuss, there are a few different iterations of this one. The major idea is that Callisto was a friend/follower of Artemis, one of the Greek goddesses. Like all of Artemis's followers, she vowed to remain a virgin. Unfortunately, one day, Zeus decides to set his sights on Callisto. Probably, my favorite version is from Ovid, who says that Zeus disguised himself as Artemis, and seduced Callisto. Callisto, for her part, realized quickly that these kisses were, and I quote from translated works of Ovid's *Metamorphoses*, "Not those that virgins give."

[00:08:04] Kit: This typology of kisses, I would love to see it from Ovid. [laughs]

[00:08:07] Jordan: Callisto gives birth to a son named Arcas. At this point, Hera enters the chat. Where has she been? Who knows? Doesn't matter. She's here now, and she is **[unintelligible 00:08:22]**

[00:08:23] Kit: Oh, what else is new? [chuckles]

[00:08:25] Jordan: She shows up just in time to be very angry, which, love that for Hera. Not much as new, Kit. In punishment, Hera shows up just in time to turn Callisto into a bear.

[00:08:39] Kit: This is a weird move from Hera. I don't understand her punishments or reactions. Sometimes it's, "I'm going to turn you into a bear or a cow." In the **[unintelligible 00:08:54]** myth, it's like, "I'm going to manipulate you into seeing Zeus's form and dying."

[00:09:00] Jordan: Hera also just lets the kid Arcas live his life.

[00:09:04] Kit: Hercules would like a word.

[00:09:06] Jordan: Arcas, son of Callisto, is just out there living his life, and goes out hunting.

[00:09:12] Kit: Yes, a very princely activity.

[00:09:15] Jordan: He's got time, he's got energy, he needs to get better at it. Callisto sees him, she runs towards him out of recognition, but she's a bear now, and Arcas does what most people would do when being approached by a bear at velocity. He attempts to kill the bear, who he of course doesn't know his mother, and Zeus, again, right place, right time, or was watching the right channel, decides, "Oh, shoot, maybe I should intervene."

Right as this tragedy is about to take place, he turns them both into Ursa Major and Ursa Minor according to Ovid, or possibly Ursa Major, and Boötes.

[00:09:58] Kit: The subtext of this story is that Hera/Juno is still quite unhappy, and she goes to Tethys and Oceanus, and basically, begs them, begs them to keep the constellations away from the sea, which is, I don't really understand, but is an attempt I think, to explain why that constellations are circumpolar.

[00:10:24] Jordan: In some other versions of the story, Callisto is turned into a bear by Zeus to protect her from Hera, who of course figures this out and then, just gets Artemis to kill her.

[00:10:36] Kit: [sighs] As usual. Just, it's too much from the Greco-Roman gods, Zeus, Artemis, Hera, just they all are coming off looking awful.

[00:10:51] Jordan: What a great way to start Season 3, just to remind you of who these Gods really are. I think this is an example where the creation of the constellation is more explicit than some of our other examples, or in other stories. It's similar to the Pleiades myth that we talked about in Season 2, where Zeus puts the sisters in the sky to save them, so myth is really to explain that specific asterism, in the same way this myth explains these specific constellations, and why they're located where they are in the night sky.

[00:11:22] Kit: Again, like all Hera, Zeus debacles, this is another story about boundaries between mortals and immortals. Something that reveals the nature of the Gods as fickle and vengeful, but somehow in the end, Zeus still gets to be cast as protector, and Hera as whiny. Yes, I mean, I guess see our other Daddy Z myths and ret-cons for more analysis.

For example, our myths and ret-cons of Cepheus, which we actually talked about Io, the cow, or our Corona Australis myth, where we meet Semele, the mother of Dionysus, so both of those are from Season 2, and get at those parts of the myth.

[00:12:07] Jordan: Changing gears a little bit. Several of the myths we discussed at the top of the show from indigenous cultures are an example of a long standing type of myth or narrative that's called the Cosmic Hunt. The story generally follows the description we gave. It's less problematic than the Greco-Roman myth. Shocker. There are hunters on a hunt of a large animal.

The animal is wounded, or about to be captured, and somehow becomes a constellation. This seems to be, in some ways, one of our very first constellations. We see evidence of this type of myth dating back at least 15,000 years, but it is constrained to those indigenous people who made it to the Americas, perhaps, coming from common ancient ancestors.

[00:12:51] Kit: Yes, and there is some really interesting work on this in comparative mythology that I'll post over on our socials for anyone wanting a deeper dive into it. Again, we're at *Starry Time* pod on the Universeodon Server of Mastodon.

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[00:13:15] Jordan: Welcome back to our segment Ret-constellation. In this segment, we reimagine, reboot, and revise the myths of our monthly constellation, in hopes that we can modernize them, subvert them, or perhaps even deepen the story of our monthly constellation. Sometimes, all we can do is just try to make them a bit less cringey. Do you want to start us off this week?

[00:13:40] Kit: I mean the first and most obvious solution is that, we just go with the older Cosmic Hunt versions. Erase this entire myth from history, and that was first proposal.

[00:13:52] Jordan: Turns out they got to write the first time.

[00:13:54] Kit: Yes.

[00:13:54] Jordan: Didn't need all this soap opera baggage.

[00:13:57] Kit: My second idea would be to change the story, so that Artemis and Hera stop Zeus from attacking Callisto, and they work together to turn Zeus into a bear that must roam around the forests, like the animal he really is. He's out there roaming the woods when a hunter is about to kill him. Hera starts to feel maybe just

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a teensy bit bad, and decides she's not going to bring Zeus back into human form/God form, but instead, she's going to throw him into the night sky as a constellation, give him a little taste of what that's like. Now, he's a consolation, up there in the night sky. Not really able to do anything. Just has to be an observer, and that's my ret-con.

[00:14:46] Jordan: Love it. Zeus, how do you like a little taste of your own medicine?

[00:14:51] Kit: How about you, Jordan? How are you ret-constellating this one?

[00:14:54] Jordan: In my ret-constellation, Callisto and Artemis are in love. They have a beautiful relationship, till one day they are hanging out in the woods together, and Zeus shows up, and tries to seduce Callisto. Artemis is there at the time, and they're both just not interested, my guy, just not my type, as you can see here, but Zeus, very petty, doesn't take rejection very well.

Just in rage and fury, he returns to Mount Olympus and starts thundering down, and throwing down lightning bolts which creates a giant forest fire. Artemis and Callisto, still together at this time, are on the run from this forest fire. Eventually, after running for miles and miles, they find a cave, a cave that will be protected from the fire. They sneak into the cave, and just when they think they're safe, approaches a mother bear and her cub.

Instead of trying to attack, the mother and the cub are equally terrified by the lightning bolts, by the flames, by the forest fire, and they huddle together, and take care of each other. Eventually, Zeus being the vainglorious God he is, Zeus is really angry, but not a very long attention span.

[00:16:34] Kit: [chuckles] True.

[00:16:35] Jordan: The forest fires die down after months, but Callisto and Artemis always return back to this cave, and Ursa Major and Ursa Minor stay in the night sky this day as a symbol of love and devotion.

[00:16:52] Kit: I like that we keep the romance between Callisto and Artemis, but make it genuine, not just like some front that Zeus is putting on. I like that this could be a myth that could explain forest fires in places where those things do happen and occur. They can-- This can also be used to explain hibernation of bears, right? It has that element of myth that explains the natural world, but without all the weird stuff in Greek mythology.

[00:17:22] Jordan: All right, Kit, I loved your ret-con. Mine was a little bit long, but let's see where our Oracle took this myth in our segment. Oracle AI.

[00:17:32] Kit: First, we asked the Oracle to summarize the myth, and then to identify the key problematic themes. These problematic themes include, one, sexual assault and lack of consent, two, victim blaming and unjust punishment, three,

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double standards for infidelity and patriarchal control, four, jealousy and misplaced anger, and five, transformation and dehumanization of Callisto.

[00:18:02] Jordan: To be fair, pointing out the problematic elements of this story shouldn't be difficult, but that is a concise breakdown. Great job, Oracle.

[00:18:12] Kit: Then, with these problematic elements identified by the Oracle, we asked the Oracle to provide us a short one paragraph, so has to keep it brief, retelling of the constellation myth that that subverts these problematic elements, and modernizes the myth. Jordan, would you like to voice the Oracle for us?

[00:18:34] Jordan: Kit, it would be my honor. So Sayeth the Oracle, in a modern retelling of the myth, "Callisto is a devoted follower of Artemis who values her independence, and strength. Zeus, intrigued by her spirit, tries to seduce her, but Callisto firmly rejects his advances. When Hera learns of Zeus intentions, instead of blaming Callisto, she confronts Zeus about his behavior.

Artemis, respecting Callisto's resilience transforms her into the constellation Ursa Major as a symbol of strength, and as a protector of women. This transformation is an honor, not a punishment, and it celebrates Callisto's bravery, and independence for all to see in the night sky."

[00:19:29] Kit: Okay, Oracle, this is better than usual, but it doesn't make [chuckles] sense to me why Artemis doesn't just let Callisto live. Why does she have to be turned into a constellation? When did that happen? Are we to imagine that Callisto on her deathbed is transformed, or it happens immediately? Yes, do we really think all it takes to stop Zeus is to firmly reject his advances? There's-- [chuckles] Some of these things don't add up, but it is at least somewhat coherent, and it does address some of those problematic myths. Although, why a bear? I have lots of questions.

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[00:20:17] Jordan: This brings us to the end of our episode this week. Join us next week for the pop culture segment of our exploration of the constellations Ursa Major and Ursa Minor.

[00:20:29] Kit: This has been Kit-

[00:20:31] Jordan: -and Jordan.

[00:20:33] Kit: Sisters who love stars and stories.

[00:20:36] Jordan: We'll see you next time-

[00:20:38] Kit: -on *Starry Time*.

[music]



[00:20:57] [END OF AUDIO]