The Sumerians and Gemini:
Sumerian Astronomical Interpretations as Origins of the Divine Horse Twins and Solar Chariots in Indo-European Mythology

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Abstract

The divine horse twins and solar chariots are an integral aspect of Indo-European mythology. Evidence is presented supporting a common origin of these concepts in Sumerian mythology and that these concepts were passed to later IE cultures. The origin of these concepts in Sumerian mythology is argued to have astronomical significance as an alignment of divine horse twin and chariot constellations in the ecliptic.

1. Introduction

Deeply integrated within Indo-European (IE) mythology is the importance given to the horse and chariot. In many IE mythologies, including Norse, Baltic, Celtic, Greek, Roman and Vedic, the sun and sometimes the moon are depicted as riders of a celestial chariot across the sky. Within Indo-European mythology, the divine twins, associated with the constellation Gemini, are often related to horses and solar chariots. Examples include the horse-like Greek Dioscuri who pull the chariot of the sun across the sky, the Baltic Asviniai who represent twin solar horse gods and the similar Vedic Asvinau.

Here, a comparative analysis of Indo-European mythology and Sumerian mythology show that the IE concepts of the divine horse twins and solar chariots have a common origin in Sumerian mythology and that these concepts have astronomical significance. By examining the position of horse/chariot and divine twin associated constellations and their position in relation to the sun, moon and planets, we provide a plausible origin for these concepts.

2. Indo-European Mythology: Divine Horse Twins and Solar Chariots

J. P. Mallory (1989) outlines An Indo-European tripartite (Dumezil) function theory in mythology. First is the embracing of sovereignty by the formation of a priestly stratum which includes both legal and magic-religious order, assigned to by gods that usually come in pairs and reflect each of the two aspects. Second is a military function assigned to a warrior stratum, such as the Roman Mars, Vedic Indra and Germanic Thor. Third would be the personas embracing fertility and sustenance of herder-cultivators, normally in the form of divine twins, keenly equestrian in relation, and often

accompanied by a female figure, citing examples such as the Vedic Asvins and Sarasvati, the Greek Dioscuri with Helen and the Norse Frey and Freyr with Njorth.

The Greek twins Castor and Polydeuces (Latinized as Pollux) form the constellation Gemini. According to Greek mythology, Castor and Polydeuces, the heroic Spartan brothers referred to as the Dioscuri, were twin sons of Zeus and Leda and the brothers of Helen of Troy. In Greek mythology, Zeus seduced Leda, a mortal, by coming to her in the form of a swan. The mythology notes that while Castor was mortal, Polydeuces was immortal. Castor convinced Zeus to share his gift of immortality with his brother, which Zeus granted. Polydeuces was considered a boxer and Castor was considered a horseman. The Dioscuri are often referred to as the 'horseman gods', and are described as riding on white horses (Gardner 2003: 140). They are interpreted as accompanying the sun, and in some versions of their myth are the sons of a mare goddess (Dunduliene 1990).

In Saxon history, Hengst and Horsa share parallel equestrian characteristics, though Hengst and Horsa are father and son. The names of the Saxon heroes both mean ‘horse’ (ON *hross*, OE *hors* and OHG *hros* meaning ‘horse’; OE *hengest* and OHG *hengist* meaning ‘gelding’; NHG *hengst*, Danish and Swedish. *hingst* meaning ‘stallion’).

In Roman mythology, Romulus and Remus were feral divine twins, born of Mars, raised by a wolf, and later became the founders of Rome. Though they were not equine in relation, their counterparts in Greek and other eastern IE cultures were. They are similar to their Greek counterparts as the twins are comprised of a stronger immortal (Romulus) and weaker mortal (Remus).

In the Romulus and Remus myth, Remus was killed in a single battle between himself and his brother over who should be considered the founder of a city. Divine twins often share the same basic characteristics. The stronger (immortal) twin kills the weaker (mortal) twin in a battle of sibling rivalry (Gardner 2003: 103-109). The stronger twin eventually becomes a king or, in some cases, a god. The Indic twins Balin and Sugriva, sons of a solar deity, became arch-enemies because of their rivalry for the love of Ruma (Polome 1970). This is similar to the story of the Dioscuri, though the sibling rivalry is not present. Though characters and specific stories may vary in myriad ways from culture to culture, the same basic tenants of the mythology are still present.

In Thebian Mythology, Amphion and Zethus are divine twins whose story closely parallels that of Romulus and Remus, as both pairs of twins were abandoned at birth and became rulers of their respective cities by killing the king and taking his place. Amphion and Zethus, sons of Zeus and Antiope, were called the 'White Horses', 'The Horsemen', or 'Riders of White Horses' (Eurip. Phoen: 609).

Often, the twins' equestrian relations are so strong that the mythology sometimes refers to one or both of the twins appearing in the form of a horse. In Welsh mythology, Pryderi, the son of Pwyll (Lord of Llys Arberth), is born on the same day as a horse and the two are raised together (Ford 1977). The mother of Pryderi, Rhiannon, has very strong equine relations and is considered by scholars the Celtic horse-goddess Epona (Gardner 2003: 340). In Greek mythology, the Dioscuri are called "The White Colts" (Ward 1968) and are often physically described as the white horses that pull the solar chariot across the sky. The Vedic Asvins were the horse shaped twin sons of Varuna, the Vedic sky-god (Krappe 1930: 82-84).

Another pair of divine horse twins in Greek mythology with solar relations are Apollo and Artemis, the twins of Zeus and Leta (Gardner 2003: 12). Apollo and Artemis both share the association with hunting and archery (Gardner 2003: 89). Artemis rides the lunar chariot across the sky and shoots her arrows of silver moonlight to the earth below (Homer: The Odyssey). Apollo (known to the Romans as Helios, the Vedas as Brahma, the Persians as Mithra and Beli to the Celts) is usually thought to be a solar deity while Artemis is a lunar deity (Frazer 1925). Apollo is interpreted as pulling the chariot of the sun across the sky. Helios, a Roman antecedent to Apollo, rides a fiery chariot pulled by four horses named Pyrois, Eos, Aethon and Phlegon.

In Celtic mythology, the divine Ulster warrior Cu Chulainn, son of Lugh (the Celtic solar deity), was born the same moment as two foals (such as the aforementioned Welsh Pryderi) that later become his chariot horses; the 'Grey of Macha' and the 'Black of Saingliu' (Green 2003: 338). The integration of solar and equestrian characteristics suggests that horses are a solar animal in IE mythology (Green 2003: 356).

In Irish-Celtic mythology, the goddess Macha was considered a very swift runner. As the story goes, her husband bragged that she could outrun the king's horses. Hearing this boast, the king accepted the challenge. Even though she was pregnant and about to give birth, she was forced to compete. She died giving birth to twins after winning the horse race. Her equine relations are found in her swiftness and the name of Cu Chulainn's horse, 'Grey of Macha' (Green 2003: 338).

Archaeology provides evidence for Celtic solar chariots. The Trundholm Chariot, found in Denmark and dated to approximately 1300 BCE, shows Bronze Age IE religious symbolism and artistic designs that later become the artistic style of the Iron Age Celts.

The artifact shows a horse drawn chariot carrying a large gold disc, symbolized as the sun (Bellingham 2002: 24-25). Several Celtic coins show the horse and sun symbols together, dating from as late as the early first century CE. The Celtic version of Apollo was called Belenus ('Bright' or 'Brilliant One'). His chariot was a popular design for the backs of many Celtic coins, showing the single horse, sun and chariot wheel (Green 2003).

The Trundholm Chariot has a nearly identical equivalent in the Balkans, exemplified by the Dupljaja Clay Model, found in Dupljaja, Yugoslavia. The chariot floor is marked with a solar symbol, on top of which stands a male figure in a long robe that is regarded as an anthropomorphic representation of the sun, with the swans replacing the horses (Gelling and Davidson 1967: 119-121).

In Baltic mythology, the DHT are called the Asviniai in Lithuania and the Dievas deli in Latvia (Leeming 2003: 126). They are known as the Asvins in Vedic India, which is derived from the words for 'horse' (Lithuanian and Sanskrit *asva*, meaning 'horse'). Zirgeliai (from Lithuanian *zirgas* and Latvian *zirgs,* meaning 'the horses') are common motifs in Latvian and Lithuanian house roofs, placed there during weddings as symbols of the gods. The horses represent the twin solar horse gods Asviniai.

According to Leeming (2003: 125), Usins, one of the Asviniai, was a Baltic solar horse god whose solar chariot was pulled across the sky by a pair of white horses. He is often associated with the Baltic solar deity Dievs in Latvia (Dievas in Lithuania, from the IE root *dyeu*, meaning 'heavens'), which is the Baltic counterpart to the Greek Zeus, Roman Jupiter and Vedic Dyaus (Leeming 2003: 125). As with many of the sky gods, Dievs had twin sons as well as numerous daughters.

The other Baltic twin was Martins (English *marshall*, meaning 'horse groom'). The functions of the twins were demarcated by the seasons. Usins is identified with the summer and Martins with the winter. In the spring, the Balts (as all northern Europeans) let their livestock out to pasture (where Usins was able to ride the horses). In the autumn, they were put back in their stables where Martins would care for and protect them, starting with the festival of Martini on November 10, the Baltic beginning of winter. Usins is associated with the festival of Jurgi on April 23; the Baltic beginning of summer. Additionally, Usins was interpreted as having white hair. This belies his equine identity as one of the white horses pulling the solar chariot.

Saule ('Mother Sun', Saules Dukte in Latvia, Saules Meita in Lithuania and Salme in Estonia) is the farming mother of the twins who gives earth the gift of warmth by riding her chariot of the sun across the sky (Leeming 2003: 126).

In Lithuanian folklore, the Asviniai are the husbands of Surya and Saules Meitas ("Daughters of the Sun") who are daughters of Saule and Dievs. Similarly, their story includes the ritual abduction of the brides, similar to the Greek Dioscuri abduction of Phoebe and Hilaeeria (Leeming 2003: 125-126).

The Baltic Asviniai is possibly the closest surviving representative of the original divine horse twins. The twins, in the shape of steeds pulling the solar chariot across the sky, included the essence of the twins in the other pantheons, relating to the fire of the sky (the sun) and sometimes lighting. Their father was Dievs, the sky god of daylight and their mother was Lada, the primordial Great Mother, a rough equivalent to Saule.

Like the Dioscuri, the Asviniai took part in a mythological wedding of the heavenly family (Dunduliene 1990), which is where the Zirgeliai originates.

An example of Norse divine horse twins is that of the Alcis. The Alcis were sons of the Norse sky god Thor. Not much is known about the Alcis, as they are not found in current Norse mythology. From the accounts of Greek geographers, they were worshiped during the third century CE along the coast of the North Sea, and according to Tacitus, they were worshiped by the Germanic tribe of Naharvali. In other parts of Europe, the divine twins were also believed to rescue men from perils on sea and land (Davidson 1990: 169).

In Norse mythology, the sun, called Alfrodull ('Glory of elves'), was driven by a maiden named Sol (also called Sunna or Frau Sunne) and was pulled by two horses named Alsvid ('All-Swift') and Arvak ('Early Waker'). Sol, the daughter of Mundifiore, drove her chariot quickly as the wolf Skoll pursued her. According to the mythology, before she is caught and devoured by Skoll (Fee and Leeming: 144) she will have a daughter who will then succeed her after Ragnarok (the Norse Armageddon). The sun was recognized as the source of heat while it was the horse's main (the sun's aurora) that was the source of light. The two horses (Alsvid and Arvak) represent a Norse version of the IE divine horse twins.

Another set of divine twins in Norse mythology are Freyr and Freya. Freyr and Freya are the twins of the Norse sea god Njord. Freyr represents a male fertility god. His twin sister is Freya, a female love/fertility goddess. Freyr rides a chariot drawn by two boars, Gullinbursti (golden-bristled) and Slidrugtanni. Freyr, god of sunshine, rain and agriculture, rides his chariot through the sky. His chariot is pulled by two boars instead of horses, though the differences parallel those of the Dupljaja chariot, which was pulled

by swans or birds instead of boars. Freyr and Freya are very similar to the Greek Apollo and Artemis.

Before the Norse, Bronze Age Scandinavian peoples viewed the horse as a symbol associated with the journeying sun (Ellis-Davidson 1988: 53). The continuation of this view to the Norse is found in the story of Gylfaginning.

The Gylfaginning ('The Tricking of Gylfi') is the first part of a collection of folk-tales and stories written by the Icelandic poet and historian Snorri Sturluson called the 'Younger Edda'. The Younger Edda deals with the creation and destruction of the world of the Norse gods and many other aspects of Norse mythology. The second part is called the Skáldskaparmál. The 'Younger Edda' (Poetic Edda) is distinguished from 'Elder Edda' (Prose Edda). A story in Younger Edda describes night and day: "All-father took Night and her son Day, and gave them two horses and two chariots and put them up in the sky, so that they should ride round the world every twenty-four hours. Night rides first on a horse called Hrímfaxi (Frost-Mane), and every morning he bedews the earth with the foam from his bit. Day's horse is called Skinfaxi (Shining-Mane), and the whole earth and sky are illuminated by his mane," (Jonnsson 1902a).

In addition, Gylfaginning recounts how the maiden Sunna, the sun and her brother Mani, the moon, drove horse-drawn chariots on their path through the heavens as described earlier: "There was a man called Mundilfari [Mundifiore] who had two children. They were so fair and beautiful that he called one of then Mani and the other, a daughter, Sunna; he married her to a man named Glen. The gods, however, were angered at his arrogance and took the brother and sister and put them up in the sky. They made

Sunna drive the horses which drew the chariot of the sun that the gods had madeto light the worlds from a spark that flew from Muspell," (Jonnsson 1902b).

In Vedic mythology, the divine horse twins were the Asvins which meant "horsemen" (Bloomfield 1908: 110). They were sons of the sun, mothered by a nymph who, in the mythology, once hid herself in the form of a mare. Asvins is derived from aswa, meaning 'horse'. In Vedic mythology, the horse is a symbol of luminous deities, primarily the sun god Surya (also called Aditya). Surya rides his golden chariot across the sky, drawn by seven bay horses - one for each day of the week (Frawley 1996). The horses are described in the hymns as the daughters of heaven. Sometimes, the mythology claims there are four horses, or one horse with seven heads (Frawley 1996).

The Asvins are children of Heaven (MacDonell 1963: 50), whose chariot is 'sun-like' and is pulled across the sky by swans, eagles, buffalo, ass or horses (MacDonell 1963: 50), depending on the mythology. Just like the Greek Dioscuri, only one of the twins is said to be an immortal. The Asvins are believed to represent the dawn and dusk; the immortal twin rising and the mortal setting (dying) at the end of the day. The Asvins are said to have won a race in their chariot at the marriage of Soma and Surya (MacDonell 1963: 51). Surya is the Vedic counterpart to Saule ("Sun Maiden") (Bloomfield 1908: 115). Soma is a plant that is used to produce intoxicating liquor, though Soma is not necessarily referring to the plant in this case. The 'marriage' could be either literal or symbolic. The Asvins are in a loving relationship with the "daughter of [Saule] the Sun" (Bloomfield 1908: 116), like their Baltic counterparts.

In Vedic myth, Yama and Yami are similar to the Biblical Adam and Eve, as they are the first people who populate the earth (though Yama and Yami are siblings). Of the

two, Yama (immortal) is fathered by the divine Vivasvant, which means “the shining one” (Bloomfield 1908: 120), probably referring to the sun.

Additional solar related horse twins fill Vedic mythology, such as Pushan and Surya and the Gandharvas who were shining celestial beings of the sky, related to the sun, and were conceived in the shape of asses - later to horses (Joshi 1977: 24).

The Vedic Ashvini Kumaras were golden armored horse headed twins. According to Das Goravani (1995), they were born of a mare, as Asva means "horse", Asvini means "she-horse", and Kumars means "young boys”. One of the wives of the solar deity Vivasvan, Samjna, once took the body of a mare in order to spend some time performing austerities on Earth. During that time, Vivasvan came in the form of a horse to be with her and together they parented the Ashvini Kumaras (Goravani 1995).

Mitra was a Vedic solar deity and one of six others connected together, referred to as the Adityas and representing the seven heavenly bodies… the sun, moon and five planets (Dandekar 1979: 41-42). Vishnu (Mitra’s dual partner) was also considered a solar deity and had seven children; the sun, moon and five planets. Mitra was called the “the warrior of the white horses” and is also referred to as the god of the dawn, much like the Asvins and Greek Dioscuri.

3. Sumerian Mythology

The Sumerians (3000-1900 BCE) produced the earliest civilization to occupy the southern end of Mesopotamia, known as the “Fertile Crescent” in what is present day southern Iraq. The Sumerians formed a complex and structured civilization with a language unrelated to any other, neither Semitic nor Indo-European in origin or similarity. The Sumerians also produced the first written language, called cuneiform.

Since Mesopotamia was primarily occupied by the Sumerians (3000-1900 BCE), the Akkadians (2300-1900 BCE) and the Babylonians (1900-400 BCE), it is important to discriminate between the deities of the separate cultures. Since the Sumerians were contemporaries to the northerly Akkadians from 2300-1900 BCE, many of the deities can be considered Sumero-Akkadian. The cultures commonly adapted the mythologies of their predecessors and the deity is often passed down with only the name changing and myriad changes in the deity's role or story.

In Sumerian mythology, Inanna (which means "rush of the sky", the Akkadian Ishtar) and Utu are the divine twins. Utu is the sun god and is usually depicted with fiery rays coming out of his shoulders and upper arms, carrying a saw knife (Kramer 1961: 40). Inanna is the goddess of sexuality, heaven and the moon. Inanna is often portrayed as the victorious goddess of battle, riding a chariot drawn by seven lions. Utu is reported to have had a charioteer named Bunene, pronounced Pû-dê-dê in Sumerian, from *pû*, 'light up, shine out' and *dê*, 'gleam, fire, flame', together meaning "illuminating flame" (Ryan 2000). Utu is similar to the Greek Phaéthon, the son of the solar deity who drove a horse-drawn chariot.

Ryan (2000) believes the Greek Athene is essentially a solar-goddess. He notes that the Greek Athenâ is a feminine form of the base *athen*, which is distantly cognate with Sumerian et-an[n]a(k) (probably better: *ad-an[n]a(k)*), "strong one of the sky", the eagle (relating the eagle to one of the solar animals).

Graves (1959: I-171) suggests that Athene Polias ('of the city') may have originally been Athene Polias (goddess of the local horse cult), from the Greek pólos

meaning ‘foal’. Erichthonius instituted the worship of Athene, and was finally placed by Athene in the skies as the constellation Auriga, the charioteer.

Shamash (the Sumerian Utu) was a Babylo-Assyrian solar deity and son of the moon god Sin and his wife Ningal, and brother (or husband in some Babylonian myths) to the Akkadian goddess Ishtar (Sumerian Inanna). Each morning, Shamash arose to make his daily trek across the sky. During this time, the eastern doors of his palace on Mount Mashu would open, allowing his solar chariot (of which Bunene was the driver) to cross the sky of the Western mountains.

The Sumerian divine twins Inanna and Utu have direct relations to horses and the solar chariot. Sumerian mythology shows that the connections between divine horse twins and the solar chariot are very similar to the IE version. Since the Sumerians pre-dated the Indo-Europeans and were in a prime geographic position to pass this mythology to the Indo-Europeans, they may be able to provide a common origin of the divine horse twins and solar chariot concepts in IE mythology.

Sumerian mythology connects the divine twins and solar chariots to constellations and astronomical objects such as the sun, moon and planets. An analysis of Sumerian astronomy will provide evidence that the concepts of the divine horse twins and solar chariots are astronomical interpretations of constellations.

4. Sumerian Astronomy

It is well established that astrology formed in ancient Mesopotamia (Culver and Ianna 1979: 12, Shulman 1976: 24) and was indiscernible from astronomy at the time. The oldest known astrological texts are from the Hammurabi Dynasty (circa 2100 BCE) and are simple omens based on the moon and planets (Culver and Ianna 1979). Larger

sets of cuneiform tablets show additional astrological writings that were collected to summarize astrological data, collected between 1350-1100 BCE (Culver and Ianna 1979).

Around 1600 BCE, the Babylonians compiled the first known star catalogs and began long-term records of planetary motions (Von Soden 1985). By 800 BCE Babylonian astronomers had fixed planetary locations with respect to the stars of the zodiac and were keeping records of these positions on clay tablets. The objects of their early observations include Venus, Jupiter and Mars. These records often spanned several centuries (Babul 2001, Abrams 1991).

We know that Sumerian astrology and astronomy was adapted by the Akkadians and later by the Babylonians who gave direct reference to the Sumerians. Thus, many Sumerian views of astronomy are inferred, though it is logical to do so. An understanding and analysis of precession will provide evidence of astronomical origins of divine horse twins and solar chariots within Sumerian mythology.

All freely rotating massive objects under effects of gravitational torques (such as Earth, caused by the Moon and Sun) undergo a gradual change of the apparent North Celestial Pole of the object. This is called precession. The North Celestial Pole traces a circle around the north pole of the ecliptic. The ecliptic is the plane of the solar system in which the planets and moon orbit the sun. The Zodiac is comprised of all constellations in which objects in the ecliptic (sun, moon, planets) rise, travel across the sky and set with respect to an earth-bound observer. There are twelve constellations in the Zodiac, occupying thirty degrees of arc each, correlating with the modern twelve month year.

Earth's axis precesses with a period of approximately 25,770 years (Beatty et al. 1990) along a cone with a half apex angle of 23.439 degrees. This corresponds to

0.0139697 degrees/year or, equivalently, 50.290966”/year in Epoch 2000, where years are measured in mean Julian years (Astronomical Almanac: B19 and K6; Lang 1992: 12). This implies that the equinoxes precess backwards around the ecliptic, at the average rate of about 50.35 arc-seconds per year. This is relevant to the ecliptic longitude of each star, thus not affecting the ecliptic latitude (Vincent 1998).

Because of precession, the North Celestial Pole is not fixed in time, but very slowly changes apparent position with respect to background stars. This causes the sun (and all objects in the ecliptic) to rise in different constellations of the Zodiac during vernal equinox over long periods of time. They appear to move backwards through the Zodiac across the ecliptic at a rate of one degree of arc every seventy-two years. Currently, the North Pole is within one degree of Polaris, the “north star”. Five thousand years ago, the North Pole pointed toward the star Thuban.

Each one of the twelve signs of the zodiac takes about 2,100 years for our solar system to pass through. Every seventy-two years the North Pole moves backward one degree. After 2,100 years we move out of one “Age” and into another. An “Age” represents the constellation of the Zodiac the sun and other solar system objects rise in the sky on the vernal equinox. We are currently entering the ‘Age of Aquarius’.

If we look at the time period of the early Sumerians, about 6000-4000 BCE, we find that this time period coincides with Age of Gemini. The Sumerians recognized the constellation Gemini, which they called Mastabba-gal-gal: “the great twins” (Evans 1998: 39).

Several Greek constellations in the Zodiac correspond to Babylonian constellations as represented on boundary stones of the Kassite period (Evans 1998: 39),

dating to 1200 BCE. Additionally, solid evidence was found that the Babylonians used a twelve-constellation zodiac by about 900 BCE and used twelve zodiac signs, representing each of the twelve constellations by late 600 BCE (Evans 1998: 39). The Gemini constellation covers an ecliptic interval of 28.5 degrees (Culver and Ianna 1979: 77), which roughly corresponds to the thirty degree interval developed by the Babylonians. It was apparent that the Sumerians had used a twelve constellation Zodiac by at least 1900 BCE.

Currently, we do not have much astronomical information recorded by the Sumerians, nor do we know much directly about their astronomical views or practices. Most of our information comes from the Babylonians and Akkadians. Because the symbolism and technical terms used in Akkadian and Babylonian astronomical texts are linguistically Sumerian, we assert that the astronomical recordings are Sumerian in origin.

5. The Astronomical Significance

As mentioned before, if we extrapolate the position of the vernal equinox with respect to the background constellations as a result of precession, we find that the early Sumerians lived in the Age of Gemini. This is very significant, as it provides us with an origin of the Divine Twins that is commonplace in both Sumerian and IE mythology.

The Babylonians used the star Castor to mark their eleventh ecliptic constellation, Mash-mashu-mahru, the "Western One of the Twins"; while with Polydeuces, the two constituted Mastabba-gal-gal (Allen 1889).

In Assyria they were Mas-mas and Tuamu: “the twins”. As an object of veneration, Castor was Turus-mal-ma in Sumerian, the "Son of the Supreme Temple" (Allen 1889).

Due west of Gemini, on the ecliptic, we find the constellation Auriga, “The Charioteer”. If we look at the traditional view of the Auriga constellation and the type of chariot in which it was commonly interpreted, we find that it agrees with the first known chariots, developed by the Sumerians around 3200-3100 BCE (Sparreboom, 1985). This timeline also coincides with the first domestication of horses.

Sparreboom (1985) states that the first evidence of chariots consisted of simple pictographs inscribed on clay tablets found in the Uruk level Iva, in Sumeria. Evidence for four-wheeled and two-wheeled chariots became quite evident in the early third millennium BCE in Mesopotamia (Sparreboom, 1985). Due to the fact that the earliest Sumerian chariots were probably four-wheeled wagons pulled by onagers (ass), the constellation Auriga could be interpreted as a four-wheeled, four-horse or onager drawn chariot or wagon. Classical interpretations of Auriga view it as a four-wheeled chariot pulled by four horses. The Babylonians, Greeks, Arabs, and Chinese have also associated Auriga with a chariot.

In the early Euphratean star-list, Auriga was called Mar-urbi ("The-Chariot-by-itself"), the Semitic Narkabtu-istênis, also called Gar "Chariot" and Sugi "Chariot-Yoke" (Rosenberg 1998). The Auriga stars Lucida, Capella and α-Aurigae marked the Vernal Equinox about 3853 BCE.

Babylonian carved boundary stones, called kudurru (King 1912) and written in cuneiform, display a similar pattern found in many artifacts of the era, showing two

bright ‘stars’ and a crescent (moon?). The two bright stars could be interpreted as the great twins.

With evidence that the Sumerians interpreted the constellation Auriga as a chariot, we have an alignment of divine horse twin (Gemini) and chariot (Auriga) constellations with the sun and moon. This provides a plausible explanation for the origin of the divine horse twins and solar chariots as the divine horse twins pulling the chariot of the sun or moon across the sky.

6. Conclusion

The concepts of the divine horse twins and solar chariots are found in Sumerian mythology and correspond to the first domestication of horses in Mesopotamia. Evidence shows that the Indo-European concepts of the divine horse twins and solar chariot may have a common origin in Sumerian mythology. Evidence also shows that these concepts may be astronomical in origin, corresponding to the alignment of the constellations Gemini and Auriga, and the sun and moon.

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