



10.5281/zenodo.220933

THE MYTH OF IXION: AN ASTRONOMICAL INTERPRETATION

Paolo Colona

¹Università di Ferrara; Società Italiana di Archeoastronomia

Received: 27/02/2016

Accepted: 18/04/2016

Corresponding author: Paolo Colona(inforsevizzi@yahoo.com)

ABSTRACT

For almost two centuries mythologists, cultural historians and philologists tried to decipher the Greek myth of Ixion and to determine the nature of his fiery wheel. All those efforts led to many diverse conclusions, most of which fall into two main categories: solar symbolism and weather phenomena. In this work we show how the wheel of Ixion can be identified with the 22° solar halo. The arguments that best support our hypothesis are: a) the deep connection between Ixion and rainmaking magic: the 22° halo is a sign of an upcoming worsening of the weather; b) Hermes ties Ixion to the wheel: the planet Mercury, associated with Hermes, orbits the Sun with the same apparent amplitude of the halo; c) the halo (that could well be described in mythical terms as a “fiery wheel”), is quite bright and easy to see but no Greek myth is known to mention it: Ixion could fill the gap; d) the wheel is imposed to Ixion after his conjunction with Nephele, a cloud, and the halo can only occur in presence of clouds; e) the previous interpretations, both solar and atmospheric, are now congruous since the halo appears around the Sun and anticipates stormy weather. The etymology of Ixion, its Sanskrit parallel Aksha and its meaning are also discussed.

KEYWORDS: Archaeoastronomy, aetiological myths, Greek mythology, ancient meteorology, Mercury, Olympian gods, 22 degrees halo, Sanskrit etymology.

1. INTRODUCTION

Many scholars tried to figure out the meaning of the myth of Ixion since it was quite clear that it hides some sort of further message. Despite such efforts, there is no concordance among all the works published to date. The myth has been analyzed for a long time, but several disparate interpretations were found, each one having little influence in persuading other scholars. We know it is important to study and understand myths because they are a huge and invaluable reservoir of knowledge, and their understanding can shed light in a privileged way on the culture of ancient populations. What then is the message of Ixion? The present paper attempts to settle the issue.

2. THE MYTH OF IXION

Ixion was king of the Lapithae or Phlegyies (Apolod. i. 8. §2; Hygin. Fab. 14.) Having promised many gifts of wooing to Deioneus (also called Eioneus), Ixion married his daughter, Dia, by whom he begat Peirithoüs. Ixion never gave to his father-in-law the bridal gifts he had promised, so Deioneus stole some of Ixion's horses in retaliation. Ixion concealed his resentment and invited Deioneus to a feast at Larissa. When he arrived, Ixion pushed him into a pit full of burning coals and wood. As no one purified Ixion of this treacherous murder, and all the gods were indignant at him, Zeus took pity upon him, purified him, and invited him to his table. But Ixion was ungrateful to his benefactor, and attempted to win the love of Hera. Zeus forged a cloud in the form of Hera and sent it to Ixion in order to test his intentions. By the cloud, named Nephele, Ixion became the father of a Centaur, who again having intercourse with Magnesian mares, became the father of the centaurs. (Pind. Pyth. ii. 39; Lucian, Dial. Deor. 6.) Ixion, as a punishment, was chained by Hermes with his hands and feet to a wheel, which is described as winged or fiery, and said to have rolled perpetually in the air or in the lower world. He is further said to have been scourged, and compelled to exclaim, "Benefactors should be honoured." (Hygin. Fab. 33, 62; Virg. Aen. vi. 601, Georg. iii. 38, iv. 484).¹

3. SUCCESS OF THE MYTH

The myth of Ixion was rather popular in the past. Along with those of Sisyphus, Tantalus and Prometheus, Ixion's punishment was recognized as one of the classic torments of the Greek mythology. Boccaccio, in *De genealogiis deorum gentilium*, reports the whole tale and shows how Ixion is emblematic for lust, craving and conceit. Chaucer, who read Boccaccio, also met Ixion translating Boethius' *Consolation of Philosophy*: "torneth in furie, as dooth he, Ixion,

in helle". Edmund Spenser writes in *The Faerie Queene*: "There was Ixion turned on a wheele / For daring tempt the queene of heaven to sin". Shakespeare, in *King Lear*, alludes to Ixion when Lear says to Cordelia: "Thou art a soul in bliss; but I am bound upon a wheel of fire"². Alexander Pope mentions him in *The Rape of the Lock*: "Or as Ixion fix'd, the Wretch shall feel". And so does August Strindberg in *Zones of the spirit* (1913): "Ixion revolves on his wheel, at one moment up, at another down". Ixion was also the favourite theme for authors of the XIX Century. See for example Harvey Hubbard who published in 1852 *Ixion And Other Poems*, or the burlesques play by Francis Burnand *Ixion or the Man on the Wheel* (1863). Among the other works that made Ixion popular there are those of the English prime minister Benjamin Disraeli *Ixion in Heaven* (1834), the allegory by James Ewing Cooley *The spawn of Ixion* (1846), and the poem *Ixion* by Robert Browning in his collection *Jocoseria* (1883). The Italian writer Cesare Pavese dedicated to Ixion the first story (*La Nube*) in his book *Dialoghi con Leucò* (1947), and *Ixion's Wheel* (1969) is a collection of poems by Ralph Gustafson³.



Figure 1. Tantalus, Ixion and Sisyphus on a sarcophagus (Museo Pio Clementino)

4. INTERPRETATIONS

Leaving aside the success of the myth among literates, we're interested in that "wheel of fire" and in what it possibly means. First we summarize the interpretations proposed by various authors. As it will be apparent, the meaning of the myth is singularly controversial.

- For the psychotherapist Paul Diel (year of publication: 1952) Ixion condenses not only the evil spirit but also the vanity, represented by the attempt to usurp the place of Zeus, and sexual depravity, for trying to seduce Hera.

Yet, such interpretation must be confronted with Lucian of Samosata who, in the *Dialogues of the Gods*,

explicitly says that Zeus does not want to punish the passion of Ixion but his mendacious language.

- Carl Gustav Jung (1956) acknowledges as factual that the wheel of Ixion is a “sun-wheel”, and at the same time holds that its use as a torment is an archetype. Actually, convincing himself that the motif of Ixion occurred in the dream of an uneducated patient, he (also after other experiences) finally conceived the idea itself of archetype.

- Károly Kerényi (1958)⁴ shows no doubt and writes this conclusive statement: “One can easily recognise in the whole story [of Ixion] the punishment of an older, savage sun-god who had to be tamed beneath the rule of Zeus”.



Figure 2. "Ixion on the Wheel" from a Cumaean vase, detail. (Gayley, 1893, p. 358)

- John O'Neill (1897) prefers to see in Ixion, tied on a torment wheel in eternal movement, the human existential condition, as an allegory for the "wheel of fortune" of infinite causes and effects from which the only escape is through Nirvana.

- Mythologist Robert Graves (1963) claims he recognizes in this myth archaic agricultural rituals related to the killing of the king and linked to the cult of the Moon, the oak and the solstice (it's striking, however, that these elements do not appear in the plot of Ixion). He also mentions a relation between centaurs and rainmaking magic.

- Philologist Martin Nilsson (1932) clearly sees in this myth hints to magical rites for rainmaking, and identifies with certainty Ixion's wheel with lightning ("He was punished by being attached to a fiery wheel whirling around in the air; this can hardly be anything else but the lightning").

- Wilhelm Mannhardt (1877) is also inclined to a meteorological interpretation and in *Wald- Und Feld-*

kulte, links Ixion to violent meteorological phenomena. He follows Adalbert Kuhn in making a connection between centaurs (offspring of Ixion) and Gandharva, atmospheric Hindu gods.

- Robert L. Fowler (1993) agrees with Nilsson regarding the magic to get the rain, but also points out that "The details are very odd, the narrative motivation creaks at every juncture; the myth smacks of aetiology."

- The eminent French philologist M. Michel Bréal (1877) sees in Ixion the Sanskrit word *akshivan* ("with a wheel") and interprets him as the solar wheel turning round and round every day.

- Max Müller (1897), while agreeing with M. Bréal in general terms, doesn't hide dissatisfaction for a solution that seems simplistic, and states: "Here some other motives have still to be discovered".

- Adalbert Kuhn (1859) writes, *inter alia*, that the wheel of Ixion reverberates the *Sonnenrad*, the ancient Germanic disk symbolizing the Sun

- James Hewitt (1894 and 1901) was persuaded that Ixion was the personification of the force that turns the stars around the pole, and refers that the ancient Greeks called "Ixion" the Big Dipper (not providing any source, unfortunately). He accordingly reads the etymology given by Kuhn and Bréal as meaning "with the Axis". But he also accepts to relate Ixion with the rain as he writes that "Ixion is also, according to Bopp and Pott, connected with the root *Ik-*, pouring water"⁵. (Note that there exist at least 6 different proposed etymologies for Ixion)⁶.

- To complete the picture, we will also mention the *Encyclopædia Britannica*, eleventh edition (1910-1911), in which we read: "Ixion is generally taken to represent the eternally moving sun".

Table I. Schematic summary of the interpretations given to Ixion and to his wheel. Those related to the Sun and to the weather are the only ones with more than one supporting author.

Authors	Interpreted Ixion's wheel as
Jung, Bréal, Müller, Kerényi, Kuhn, <i>Encyclopædia Britannica</i>	Sun / solar symbol
Fowler, Mannhardt, Nilsson, (also open to the idea: Kuhn, Graves, Hewitt)	Rain magic / bad weather
Diel, O'Neill, Graves, Hewitt	Other / various (psychoanalytical, moral, Frazer-like, polar Axis)

5. OUR INTERPRETATION OF THE IXION'S WHEEL

We identify the wheel of Ixion with the solar halo at 22° from the Sun. It is a common atmospheric phenomenon also visible around the Moon, that oc-

curs when the sky is veiled by high clouds. This bright circle has an outer radius of $\sim 22.4^\circ$ (due to blue light, while the red converges at $\sim 21.5^\circ$).



Figure 2. Solar halo from the South Pole, December 21, 1980 (Cindy McFee, NOAA's National Weather Service Collection)

In the following paragraphs we report our motivations.

5.1. The brightness of the 22° halo

This phenomenon can be quite bright and persistent, remaining visible for hours. It can be coloured like a rainbow (with the blue side on the outer rim), or totally white. In both cases this luminous ring can be properly described in mythological terms as a wheel of fire. As a matter of fact the phenomenon is so peculiar, easy to see and frequent (several can be seen during a year by a modern casual observer) that it would be strange not to find any occurrence of it among the ancient myths. We do have Greek myths giving sense⁷ to the rainbow or to the lightning, why not to the halo? Ixion's may be the myth that fills the gap.

Admitting this myth has an aetiological nature, we won't be surprised that it hides some more precise information, of a somewhat technical level.

5.2. The conjunction with Nephelē, the Cloud

The myth explicitly reports that the punishment of the wheel is prepared and imposed on Ixion only after his conjunction with Nephelē, the "false Hera" made by Zeus out of a cloud (the same Greek word *Νεφέλη* means cloud). This odd detail involving the presence of a cloud is a heavy indication in favour of the identification of his wheel with the halo, since the halo can only occur in the presence of clouds. One may consider this as a sort of "smoking gun" for the identification of the wheel with the solar halo. Moreover we notice that the scene of the coupling of Ixion with Nephelē takes place in the skies, since it happens in the dwelling place of Zeus, and that the punishment also takes place in the sky (only in later

tradition it is supposed to be in the infernal world). The wheel is often described as "flying" or "winged" so that an atmospheric "floating" phenomenon like the halo seems to be called into question.

5.3. The extent of the solar halo perfectly matches the path of Mercury around the Sun

According to Hyginus (the author of the astronomical treatise *De Astronomia*) Hermes is the god commissioned by Zeus to tie Ixion to the wheel. Could Zeus not do it by himself? Why did he choose Hermes? And what is the need to specify who executed the sentence, after all? This may well be the case where "the myth smacks of aetiology" as Fowler wrote. Inserting an unnecessary detail may be very significant, and telltale of the aetiological nature of the myths.

The reason why the myth tells who ties Ixion to the wheel, and chooses Hermes, may be that the planet Mercury, the fastest of all, associated with Hermes, the winged messenger of the gods, covers the exact extent of the halo during its apparent orbit around the Sun.



Figure 3. Hermes tying Ixion. The actual apparent path of planet Mercury around the Sun superimposed, to scale, upon the solar halo (photo and graphic by the Author)

The entity of the maximum elongation of Mercury from the Sun is comprised between 18° and 28° . However, by averaging the angular values of maximum elongation of Mercury from the Sun for a sufficiently long period (we did it between 1990 and 2016) shows that the maximum mean distance of Mercury from the Sun is of 22.4° . In other words, the planet appears to move around the Sun as if it were bound in a space of the same amplitude of the solar halo (which is, as said, exactly 22.4°).

Describing the very fast movement of Mercury as the execution of the order of tying Ixion to its wheel is very fitting: you can see, in the quick appearances

of Mercury in succession to the East and to the West of the Sun, the young god busy to ensure the protagonist of the myth to his gallows. The width of his motion is just the one required to cover the extent of the wheel of Ixion identified with the halo.

5.4. *Ixion, the bringer of rain*⁸

Many scholars, as we showed before, interpret the tale of Ixion as the memory of rituals of weather magic, or as a myth related to meteorological phenomena and bad weather conditions.

In general, previous explanations of the myth are of two kinds, referring to solar symbolism or to magical rain-making. Under this aspect our interpretation of the wheel as the solar halo guarantees a scheme that embraces and comprises most of the preceding results, as if it really was the answer to the expectation of Max Müller "Here some other motives have still to be discovered"⁹.

There's no need of course to show the connection between the solar halo and the Sun, because it's obvious, but it's very interesting to examine the connection between the solar halo and the rain. They are deeply connected: the 22° halo is in fact a strong indication of an upcoming worsening of the weather.

This notion is well known by those who still observe and pay attention to the sky nowadays, it is widespread and was of course not unknown in ancient times.

We have proof of it in several Neo-Assyrian tablets found in Nineveh, one of which textually reads: "When a halo surrounds the Sun, rain will fall."

From another one we learn that "When a dark halo surrounds the Moon, the month will bring rain (or) will collect clouds."¹⁰

As a matter of fact, "halos were regarded by the Assyrians, as well as by other nations, as indications of rain, and it is noteworthy that a Greek writer like Theophrastus says: "Dark halos are a sign of rain, particularly those seen in the afternoon." Aratus, the Cilician, informs us that dark solar halos indicate rough weather."¹¹ (Thompson, 1900).

The current version of those Mesopotamian statements dated early 1st millennium BC is the English proverb: "Halo around the sun or moon, rain or snow soon". In Italian it sounds like: "Cerchio lontano, acqua vicina; cerchio vicino, acqua lontana", which is analogous to another English version: "The bigger the ring, the nearer the wet."¹²

The same proverb is present in many different cultures, including Zúñi natives from Mexico (Vozella, 2011).

If a basis for linking this myth to the rain was needed, then we couldn't wish for a more solid one than interpreting the Ixion's wheel as the 22° halo.

6. AN ARCHAIC SOLAR CHARIOTEER?

As we reported, there exist many versions of the etymology of the name Ixion. One of the most shared by scholars is the one proposed in 1859 by Adalbert Kuhn: according to him Ixion comes from an intermediate form *IxiFon*, based on the Sanskrit word *aksha* (that means axis, wheel, car, and from which we have "axis") plus the suffix *-van*. Bréal goes further identifying "*akshivan*" as the term that would be the parallel of Ixion. "Ixion" should then mean the man who holds, has or is endowed with an axis or a wheel. This is interesting but deceitful since everything in the sky is round (rainbows included) or turns around an axis. In any case, if the etymology is correct and if what happens to Ixion is related to his name, the connotation of "wheel" would be perfect for our interpretation, since the solar halo actually is a kind of wheel.

Nevertheless we'd like to investigate further: it is possible in fact that Ixion may have a longer story: if his name really derives from *aksha*, it can link him not just to a wheel, but to a wagon, a carriage, and specifically to the solar one.

Since antiquity, all the planets were thought to be placed on chariots. This is because they moved in the sky among the fixed stars and also because they were majesties: they did not just walk but used chariots.

In the Sanskrit epic poem of Ramayana (V-I century BC), a character named Aksha appears. He was one of the three sons of Ravana, king of the demons, and was slain by Hanuman. With such a name, it's no surprise that Aksha did possess a chariot, and this is how it's described: "That car was splendid as the sun". We have two more interesting hints: "And bright the wheels with jewels rolled," "Racing along the earth, or rose High through the clouds whenever he chose."¹³ This is a beaming solar chariot that can reach the sky moving through the clouds: just what is needed to make Ixion's wheel appear. And the name of its owner is similar (if not the same) to that of Ixion!

In conclusion, if the etymology proposed by Kuhn is correct, then the connotations of wheel and car for *aksha* are both enticing and would fit our interpretation. In the second case, it would also be possible to investigate the relationship between Ixion and Aksha as they could possibly descend from an early sun god like the one Kerenyi demanded, related to the sun chariot. All in all, what creates the halo when joined with the clouds is the Sun, so a solar connotation for Ixion can't be totally unexpected.



Figure 3. "Germanic sun-idol", from *Sächsisch Chronicon*, 1596. Compare it with the *Sonnenrad* of Kuhn and the "sun-wheel" of Jung. The connections between the Indo-European sun god and his car, and between the car and the wheel are strong. Even though Ixion's wheel represents the 22° halo, he could have relations with a forgotten solar car-driving god, since a previous sun god could still be used for the myth of the solar halo. On the basis of his etymological link with Aksha, Ixion may be a relic of an archaic solar charioteer.

7. CONCLUSIONS

The identification of the wheel of Ixion with the solar halo perfectly fits the plot of the myth with all its odd details. It also explains why the results by previous scholars were mainly divided between a solar and an atmospheric interpretation: the halo in fact appears around the Sun and anticipates stormy weather. Those contrasting explanations are now accordant inside a consistent frame.

What could be the use of this myth, and why was it created? Surely the myth codified certain technical notions, as often myths do. But we may imagine a further intent. An incredible amount of tablets with omens from Mesopotamia are about meteorological events and report the appearance of celestial objects. This means that such optical phenomena were considered connected with the "mood" of the Sun or the Moon and somehow expressions of the gods' will, in the same way that the rainbow of Genesis 9 is the sign that God established an alliance with man. It's then easy to argue that a myth like the one of Ixion alludes to the divine will, and is a way to ensure that everyone, when seeing the halo in the sky, called to mind a useful message for the civil coexistence: "benefactors should be honoured."

REFERENCES

- Bréal, M. (1877), *Mélanges de mythologie et de linguistique*, Hachette, Paris.
- Burnand, F. C. (1863), *Ixion or the Man on the Wheel*, Thomas Hailes Lacy, London.
- Cooley, J. E. (1846), *The Spawn of Ixion, Or The 'Biter Bit', An Allegory, Forge of Vulcan*.
- Diel P. (1952), *Le symbolisme dans la mitologie grecque*, Petite Bibliothèque Payot, Paris.
- Disraeli, B. (1859), *Ixion In Heaven*, Routledge, Warnes, and Routledge, London.
- Fowler, R. L. (1993), The myth of Kephalos as aition of rain-magic, *Zeitschrift für Papyrologie und Epigraphik* 97 (1993:29–42), Dr. Rudolf Habelt GmbH, Bonn.
- Kuhn, F. F. A. (1859), *Die Herabkunft des Feuers und des Göttertranks*,
- Gayley, C. Mills (1911), *The Classic Myths in English Literature and in Art*, Boston. Ginn & Co., Boston.
- Graves, R. (1963), *I Miti Greci*, Longanesi, Milano.
- Griffith, R. (translator) (1870), *The Rāmāyan of Vālmīki*.
- Gustafson, R. (1969), *Ixion's Wheel : Poems By Ralph Gustafson*. McClelland and Stewart, Toronto, Ontario, Canada.
- Hubbard, H. (1852), *Ixion And Other Poems*, Ticknor, Reed, and Fields, Boston.
- Hewitt, J. (1894), *The Ruling Races of Prehistoric Times In India, South-Western Asia and Southern Europe*, Archibald Constable And Company, London.
- Hewitt, J. (1901), *History and chronology of the myth-making age*, James Parker & Co., London.
- Jung, C. G., et al. (1956), *Symbols of Transformation*, Routledge, London.
- Kerenyi, K. (1963), *Gli dei e gli eroi della Grecia. Il racconto del mito, la nascita delle civiltà*, il Saggiatore, Milano.
- Kuhn, A. (1859), *Die herabkunft des feuers und des göttertranks*, F. Dümmler, Berlin.
- Mannhardt, W. (1866), *Wald- Und Feldkulte*, Gebrüder Borntraeger, Berlin.
- Müller, M. (1897), *Contributions to the Science of Mythology*, Longmans, Green, and co., London.
- O'Neill J. (2003), in *Night of the Gods, Part 2*, B. Quaritch, 1897, ed Kessinger Publishing, Londra.

- Smith, W. (1880), *A dictionary of Greek and Roman biography and mythology*, J. Murray, London.
- Thompson, R. Campbell (1900), *The reports of the magicians and astrologers of Nineveh and Babylon in the British Museum*. Vol. VII. Luzac, London.
- Vozella, L. Cassola F (2011), *Nuvole nel folklore - proverbi meteorologici: gli aloni*, *Rivista Ligure di Meteorologia*, Numero 41, anno XI, Genova.

CLASSICAL SOURCES

- Boccaccio, *De genealogiis deorum gentilium*, IX, xxvii, *et passim*
- Diodorus Siculus, *Historical Library*, 4.69.3-5;
- Hyginus, *Fabulae* 14, 33 (mention), 62;
- Lucian of Samosata, *Dialogues of the Gods*, 6.
- Ovid, *Metamorphoses* 12.
- Pindar, *Pythian Odes*, II.21-48.
- Pseudo-Apollodorus, *Library*, i. 8. § 2, *Epitome of the Library*, 1.20
- Virgil, *Georgics*, 3. 38, 4.484 and *Aeneid* 6.601

ONLINE SOURCES

- A Dictionary of Shakespeare's Classical Mythology*
<http://www.shakmyth.org/myth/131/ixion/analysis>

FOOTNOTES

¹ *A dictionary of Greek and Roman biography and mythology*, by Sir William Smith, published in 1880.

² *A Dictionary of Shakespeare's Classical Mythology*: "The potential of the Ixion myth in King Lear was suggested by Robert Kilburn Root in 1903: "If one could assume that Shakespeare knew the story of Ixion as contained in Apollodorus I, viii, 2, the allusion would be especially appropriate, since the theme of the myth, like that of Lear, is ingratitude" (Root 1903: 78). The suggestion was repeated in Starnes and Talbert 1955 and developed in two ensuing papers (Andrews 1965-66, Hardison 1975), whose analyses are integrated in recent editions of the play. In the 1992 New Cambridge edition, Jay L. Halio considers Ixion's wheel to be "especially relevant". R. A. Foakes (Arden Shakespeare, 1997) and Stanley Wells (Oxford Shakespeare, 2000) also mention Ixion in a footnote, and so do Bate and Rasmussen (Macmillan, 2007)."

³ Ixion is also a car by Ford, a branded model of alloy wheels and of cycling helmets; Ixion's Wheel is a French metal rock band; Ixion Saga DT is a Japanese anime television series based on the online game Ixion Saga; Ixion Burlesque is a contemporary troupe; Ixion is also one of the biggest (~650 km) asteroids in the Kuiper Belt, discovered in 2001. Ixion is a common name in aerospace sector: Ixion Initiative is a tech team selected in 2016 to participate in the NASA's NextSTEP-2 program. Ixion is the name of a Spanish Industry & Aerospace enterprise and of the orbitographic software of the French "Pierre Simone Laplace Institut".

⁴ Kerényi, *The Gods of the Greeks*, p. 160

⁵ Hewitt, *The Ruling Races of Prehistoric Times Vol 1*, p.83.

⁶ Briefly: from Sanskrit *aksha* (axis, wheel, car), from the IE root *Ik-* ("to pour water"), from Greek: *ikétes* ("suppliant"), *ixòs* ("mistletoe"), *ischys* ("strength"), *ixios* (cult title of Apollo).

⁷ Myths don't "explain" phenomena, they rather "give sense" to them, by including them in a meaningful frame. Even the aetiological ones don't try to give a "rational" explanation to observed phenomena, but succeed in making them eloquent for the people. Rational explanation only interests later expressions of human intellect like philosophy or science, not myths.

⁸ The title "Ixion, the bringer of rain" is inspired to those used by Gustav Holst in his famous suite *The Planets* Op. 32 (1914-6): *Mars, the bringer of war*, *Jupiter, the bringer of jollity*, etc.

⁹ The doubts of Müller are precisely about the simultaneous presence of solar symbolism and weather themes in the same myth. He writes: "there still remains the difficulty why Ixion or the wheel, if a solar hero, should have been a Centaur or a Gandharva, or a cloud, and whether the cloud overcasting the air could have been taken for an insult to Hera meditated by Ixion. Here some other motives have still to be discovered." (Müller, *Contributions to the science of mythology* VOL 2, p. 523)

¹⁰ Tablets 173 and 180 from Thompson, R. Campbell, 1900, pp. Lxiii, Lxiv

¹¹ The halo is sometimes called "dark" probably because, as for angles below 22° the light is not refracted, the sky is darker inside the halo.

¹² These two proverbs refer to the fact that two different halos are possible: a narrow one, caused by harmless clouds, and the bigger one, at 22°, that anticipates weather perturbations.

¹³ The Rámáyana of Válmiki, Canto XLVII. Translation into English verse by. Ralph T. H. Griffith.